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Publications

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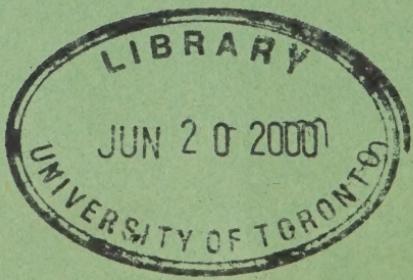
DEPARTMENT OF

GAME AND FISHERIES

May
1939

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister



DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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of the Province of Ontario.

VOLUME FOUR

MAY, 1939

NUMBER ONE

GOD SAVE THE KING

THE visit of the King and Queen to Canada will do much to stimulate the pride we feel in our British Empire relationship and further impress us with the worth of those democratic ideals which are the foundation of our constituted authority. The fact that this is the first time the reigning monarch has visited the Dominion is proof that the Throne is more than ever a symbol of these ideals, and that time but serves to strengthen them.

The panoply of power and the majesty which surrounds the Throne are but the outward manifestations of sovereign rank; the hearts which beat under the purple and ermine are intensely human. This in large measure inspires our loyalty, promotes our love, and commands our respect.

The King is a keen sportsman, and the grouse moors of Scotland annually resound to the report of his gun. He is said to be an excellent wing shot. His interest in other forms of outdoor sports is characteristic of the Royal Family. One of the most pleasing photos we have seen of His Majesty is that which shows him arrayed in sweater and shorts surrounded by a group of boys in a camp which he himself had organized.

In view of these sporting characteristics there is an additional bond of common interest and understanding between King George and the sportsmen of the Dominion. The freedom and liberty we enjoy to pursue our mutual pleasures are the result of the progressive development of our common ideals, and these are exemplified in the person of His Majesty.

With loyal and happy hearts therefore, Canada welcomes her King and Queen, and in unity and sincerity re-echoes the prayer—

GOD SAVE THE KING!

Stocking the Streams

According to figures recently published, the Department released a total of 791,816,367 artificially raised commercial and game fish during the calendar year 1938. In these days of world disturbance, national uncertainty and financial juggling, we speak glibly of millions, as if units of this size were a mere bagatelle. As a matter of fact, when the mathematics of seven-figure digits is carefully analyzed and the result visualized, one is immediately struck by the immensity of the result, whether the picture be one of money, automobiles, or even fish. When it is stated, therefore, that close to 800 million fish were raised and planted last year, both the sportsman and the economist must be impressed with the tremendous amount of work which is being done to maintain our fish resources.

The process of hatching and rearing has been repeatedly referred to, but there is another phase of the work which receives less acclaim yet is of no less importance. We refer, of course, to the hard and difficult work of safely transporting these millions of small fish to the waters to which they have been assigned. Fish planting is not a haphazard, or hit and miss, business of dumping fish in the most convenient water areas without regard to environmental conditions or the ability of the species to maintain itself therein. It is, as a matter of fact, a highly developed process of stocking the various waters with the kind of fish most suited to them, the determination of suitability being the result of scientific research and practical experience. This close attention to prevailing natural conditions obviates loss through improper plantings.

For almost a couple of months the Department trucks have been busy transporting this year's plantings from hatcheries and rearing ponds to the proper water areas, and this transference will continue until well into the Fall. As will be readily understood, these trucks find their way into all sorts of out-of-the-way places with their cans of living freight, and the operators have many tribulations to overcome at times before their precious cargoes are liberated. They tell innumerable stories of bogged wheels, rickety bridges, broken culverts, etc., over which the drivers have risked accident and loss and, frequently at the end, a back-breaking carry to the banks of the stream. In many cases, however, the final plantings are done by members of the local protective association, or other interested individuals.

When, therefore, you find the trout biting freely on your favourite stream, please recall that the condition is usually not accidental; someone has probably laboured and sweated to carry those heavy cans of fish from road to stream for your pleasure. And speaking once more in terms of millions, the stream fisherman will be interested to know that close to three million yearling and adult trout are being distributed this year, with an additional 425,000 or more brown and rainbow trout.

Life History of a Speckled Trout

In a fairly deep pool under an overhanging bank, in a stream famous for its trout fishing, one of the most beautiful of the species known by the name of *Salvelinus fontinalis*, or speckled trout, was lazily fanning the water with his fins, although his whole demeanour was one of alertness. It was late October, with the first faint touches of frost in the air, and the foliage resplendent in hues of gold and brown and crimson. The trout season was over, so the speckled beauty was reasonably safe from human interference; nevertheless, he was nervous, for something in his make-up was inducing restlessness. His colouration at this time was very brilliant, each spot on his side showing up clearly and distinctly, while the scarlet of his flanks contrasted with the dusky hue of his belly and the creamy-white edges of his fins. A few days later he left the pool and migrated, with others of his family, for a long distance up one of the feeder creeks. On the way he was joined by a female trout who, because she was heavy with spawn and therefore sluggish, found the going a little difficult. Finally, in a little shallow pool bordered with vegetation, and with a gravelly bottom, he halted his migration and began preparing a nest for his prospective family. After a great deal of physical effort—using his body and some of his fins—he finally polished up a spot on the gravel and invited his mate to take possession. When the female had deposited her eggs they were at once fertilized by the male, and gradually filtered into the crevices between the stones where they were more or less hidden. After the reproductive operation was over both fish had apparently lost their nervous energy and were somewhat listless. Slowly and deliberately they turned their backs on nest and eggs and drifted languidly down the stream again, to the deeper water which was home to them for the major portion of the year. Nature had now taken charge of the process of reproduction.

The eggs remained hidden away in the gravelly pockets during the long and strenuous winter months; then one day about the middle of March the eggs hatched and the offspring were born. For the sake of greater interest let us endeavour to trace the life history of one of these newborn fry which shall henceforth be known as "Squaretail"—his scientific name of *Fontinalis* being altogether too sissy for such a keen scrapper.

When born, Squaretail was grotesque in appearance, being about half an inch long, almost transparent, and weighted down with a yoke sac to provide him with food. For about twelve days he lay helplessly on the bottom drawing nourishment from the sac and gradually gaining strength for the great adventure. As he grew in strength Squaretail began to move about a little and made short trips to the outskirts of his home, where he discovered the minute insect larvae and other organisms which young fish require at this stage to promote growth. He was now foraging for himself and the process was not without its thrills.

Although the family hatch may have consisted of several hundred youngsters the mortality rate during this period, when the little fish are more or less helpless, was extremely high. Many of them died of starvation, others were gobbled up by natural enemies. Squaretail weathered those

early days of stirring adventure, and each fresh excursion into the great unknown found him gaining in strength, increasing in size, and generally acquiring that innate cunning which is characteristic of the species. Food was fairly plentiful, for the smaller creeks are usually rich in plant and minute animal life. The balmy days of spring merged into summer, and life for the myriads of fry inhabiting the creek was full of exciting incidents. Squaretail learned a great deal about the dangers which beset the unwary and how to avoid them. He noted that many birds were enemies to be avoided, and that it was necessary to hide from certain animals whose shadows frequently darkened the waters. In short, he discovered that freedom to live required constant alertness, and so at the first sign of danger he fled for cover.

The summer was now well advanced, and Squaretail during the period had arrived at what is known as the "fingerling stage". He was now about two and a half inches long and very active. Together with many others he proceeded down the creek for quite a distance until he discovered a nice, quiet, shallow pool with a sheltering bank which offered a large measure of protection from his enemies. In this quiet retreat he remained for many months, always keen to sense danger even when merely idling with his head pointing upstream, from which direction the current washed down a great deal of food. In these surroundings he became bolder, urged on by a natural curiosity, and would dart to the surface to seize a fly or other insect floating past. It was this fly-seizing propensity which ultimately proved his downfall—but of this, more anon. He was now in the second year of his life, and during this period of growth had become shyer and more nervous perhaps, being inclined to hide at the least suggestion of danger. Together with his companions of the hatch he spent the summer swimming lazily about the pool and feeding largely upon insects. By the end of the summer he was over six inches long and proportionately well developed. Many of Squaretail's companions experienced a new sensation during this period. Darting at a fly, they found themselves held firmly by a small barb on the end of an almost invisible line and drawn rudely out of the water, despite their fighting efforts to free themselves, into the grasp of a human enemy. However, the angler, for such he proved to be, was both compassionate and law-abiding, and returned them carefully to the water, where they immediately fled to the shelter of a log to ponder on the queer experience. The reader has probably thrilled to the sight of these little trout when feeding, as they darted to the surface after a fly; splashed, swirled and disappeared, to repeat the action a moment later.

In his third year Squaretail made his way further down the stream where there are deep pools and swirling eddies. He had continued to grow and develop, being now a good nine inches long. His appetite could no longer be appeased with small insects. He sought out the fat caddis larvae and the big mayfly nymphs. He also found that crayfish and minnows were excellent fare. By this time, too, his enemies had increased, for he was now legal game to the angler, who practised many deceptions in order to outwit him. Perhaps it was luck, or maybe experience had taught him to take no chances with unknown quantities: in any case he survived the torrid days of summer in the cool retreat of his present quarters. In the



Brook Trout.

fall he joined the annual migration to the spawning beds, for he was now mature and the reproductive urge was strong in him. After the spawning period was over he was glad to return to the deeper holes he knew so well and rest, for the unusual exertion had left him limp.

For the next two years Squaretail thoroughly explored the many pools, riffles and eddies which were his home environment. His appetite was rapacious, and to satisfy it a variety of small fish such as chubs, shiners and dace fell prey to his swift attacks. He even reverted to cannibalism when necessity required it. By this time he was probably twelve or thirteen inches long, and with a girth which made him the envy of lesser breeds. Life from now on was not exacting. There was plenty of food available and he was crafty and wise when it came to protecting himself. A deep pool had become his permanent home, and in it he was a reigning monarch.

The angler was an old-timer in the art of fly fishing and this was his favourite pool. For years he had fished this particular stream and knew all the likely spots where the big fellows were to be found under varying conditions of water temperature and climatic changes. His experience had also taught him the degree of skill and cunning necessary to invest an artificial lure with that life-like attractiveness designed to fool the fish. Today the pool appeared to be deserted, or perhaps the fish were becoming

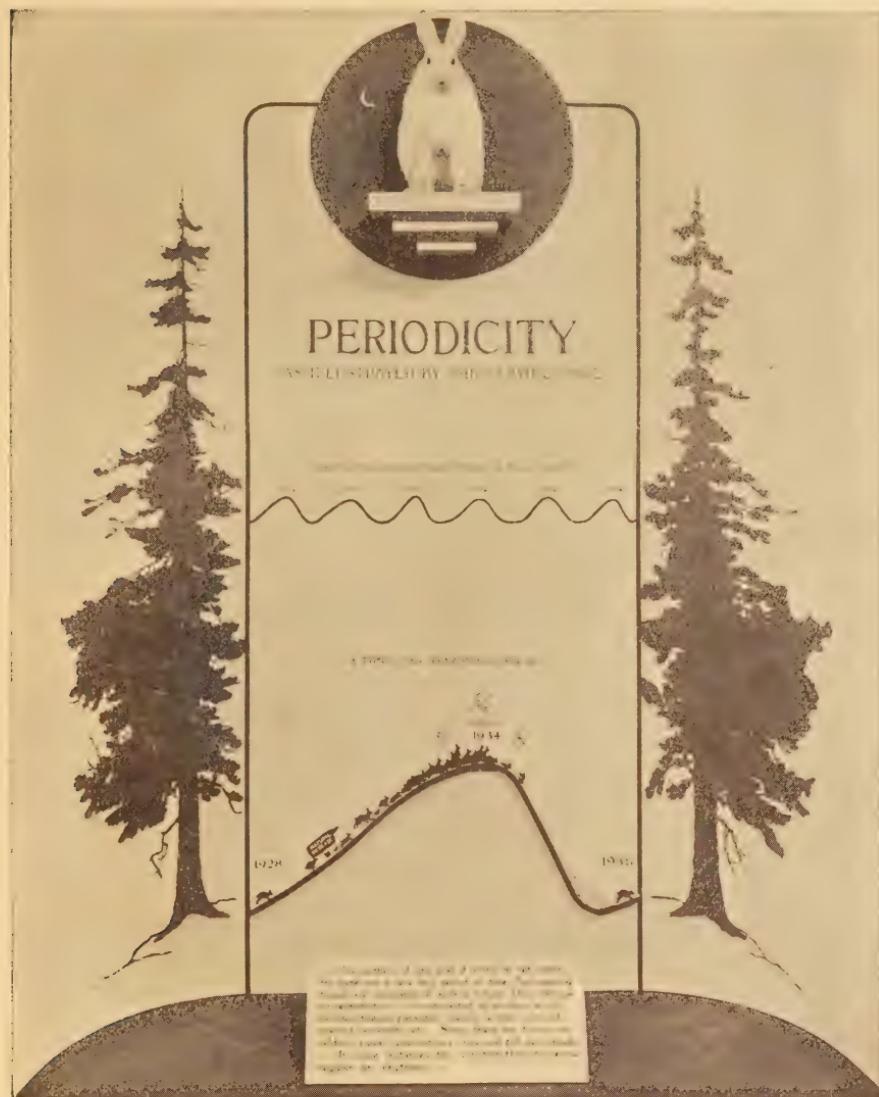
scarcer; in any case they were slow to rise to his fly. Then he noticed a surface swirl, signifying that a trout had grabbed a natural fly. Searching among a multifarious collection of different patterned flies such as every angler experienced in the art loves to carry with him, he selected one bearing a striking resemblance to those on the stream and affixed it to his gut leader. With the skill born of experience and practice the old-timer swung his rod a few times, the line cavorted back and forward in the air and then the fly fluttered lightly to the surface of the water near the spot where the swirl had indicated fish life. Action was almost immediate. There was a sudden surge, a swift dive for safety as the hook penetrated, and Squartail was fighting his last fight. His sudden dive was interrupted by a tightening of the line to which he was fast. He sped for shelter, but the line held him back; then he swept around the pool in a vain endeavour to escape. It was useless, he was held securely. Slowly but surely he was being drawn closer to the shore. Fighting desperately he sped to the surface, twisting, turning, shaking himself, then tried to reach the depth once more, but against the strain which held him he could make little progress. Squartail was a gamey fighter and his size and bulk gave him lots of power, but he was now battling a craftier foe and the odds were not favourable. He grew tired, and his efforts weakened. Then he found himself enveloped in a mesh which completely limited his actions and in another moment he was whisked from his native environment, a victim of man's cunning.

Periodicity in Hare Populations

Many kinds of animals are known to vary widely in numbers from year to year. Perhaps the best known example of this is the varying hare (snow-shoe rabbit) *Lepus americanus*, of the north woods of Canada. This is illustrated graphically in a recent museum exhibit reproduced herewith. Every ten years, on the average, hares become scarce because most of them die of epidemic disease. In the next few years following their dying off they gradually increase in numbers until in seven or eight years they are abundant again. This abundance is maintained for a year or two, and then epidemics begin to spread among them, and soon they are scarce again as they were approximately ten years before. The years in which hares were last abundant in the Hudson Bay watershed before decreases set in were: 1856, 1864, 1875, 1886, 1895, 1905, 1914, 1924 and 1934, or 8 cycles in 78 years.

Hare Numbers Affect Life in the North

These alternate periods of abundance and scarcity of hares profoundly affect life throughout the Northland. Indians cut the hides of hares into strips and weave them to make warm fur blankets. But such fur robes cannot be made every year. There are only a few years in every ten when there are enough hares to provide Indians with fur blankets. When hares are numerous there is never a shortage of food, for although Indians may not depend on hares as a staple article of diet, they can fall back on them when other food is scarce, but they are hard pressed when hares are too scarce.



—Royal Ontario Museum of Zoology Bulletin.

The Indians are not the only inhabitants of the north country to miss the hares. Many fur-bearing animals relish a hare dinner. The lynx lives on almost nothing else, while the fox, wolf, weasel and most other flesh-eating animals eat large numbers of hares when they are to be had. Birds such as the great horned owl and goshawk prey on the hare, too. But it is not these natural "enemies" that lead to the scarcity of hares.

The latter increase in spite of all the predators that prey on them. In fact, as the hares continue to increase, the lynx, fox, horned owl and goshawk increase too, since with an abundance of food in the form of hares, more young lynxes, foxes, etc., are born and survive. As the hares approach their peak of abundance, there is general prosperity in the north woods, but when epidemics reduce the hares to scarcity the animals dependent on them for food also grow scarce. Records of the fur trade indicate that such furs as the lynx and fox rise and fall in abundance with periodic abundance and scarcity of hares.

Emigration of Birds When Hares Die Off

The disappearance of the hares is felt far from the north woods in which they live; such birds as the goshawk, which increase in numbers as the hares increase, are not content to remain in their northern home and starve, but move out, presumably in search of food. In the winter or two following the disappearance of the hares, goshawks occur in conspicuous numbers in the south. Thus in southern Ontario these large hawks have been seen in some numbers in the winters of 1896-7, 1906-7, 1934-5. The lynx and fox is believed to wander to some extent in search of food when the hares have died off, but the range of their movement is not nearly as great as that of the birds.

Prey Numbers Affect Predator Numbers

A point worth emphasizing in connection with the fluctuations of hare numbers is that it is not the "enemies" of hares which cause their scarcity; the reproductive capacity of hares and other animals is adequate to maintain and even increase their numbers in the presence of the predators which normally prey on them. It is the prey, in this case the hares, which determine the numbers of their predators. Predators do affect, to some extent, the numbers of their prey, but the initiative lies with the prey.

Peaks of Abundance in Different Years at Different Places

There is space in this brief account of animal populations to mention only one additional feature of these periodic fluctuations, namely, that peaks of abundance do not always occur in the same year in all parts of the country. In the case of grouse and hares there is often a spread of three or four years between the time maximum numbers are attained in one part of the country as compared with another. Different areas may have mouse plagues in different years; for instance, southern Ontario had a plague of meadow mice in the fall of 1935; in northwestern Ontario, the maximum numbers were not attained until 1937.

Value of Understanding Population Changes

As information on changes in the numbers of animals accumulates, it is becoming evident that many more species of wild life than was originally suspected are characterized by these regular periodic fluctuations in numbers. The importance of understanding the nature and causes of these fluctuations can hardly be over-emphasized. Their importance in the fur

trade has already been indicated. It is too early in these studies yet to say whether anything can be done to control them, but whether we can control them or not it is of value to know that next year, or five years from now, certain animals will be scarce or abundant. Such knowledge is of special importance to officials concerned with making regulations for open and closed seasons, bag limits, etc.

Sanctuaries

Two of the most important of our game fishes, namely, the black bass and the maskinonge, are the most difficult to propagate artificially. Culture of the former requires an elaborate arrangement of breeding ponds for the parent fish and rearing ponds for the young. Each spawner is provided with a separate nest fashioned in the natural manner, but with provision for trapping the young. The process of removing the ripe spawn from the fish, as is done in most other cases, is impractical, so that reproduction is limited by space requirements.

In the case of the maskinonge, which grows rapidly and is a voracious eater, the factors chiefly responsible for the difficulties in rearing the fish in appreciable numbers are (1) the difficulty of supplying adequate and suitable food requisites; (2) the problem of cannibalism. Provision has now been made for experimental rearing of the maskinonge in ponds, to determine how best to overcome these difficulties, and also the problem of providing the forms of life most suitable for their development.

There is a tremendous demand for more and more black bass and maskinonge for maintaining the supply in our inland waters, since both of these species have a very great appeal to anglers. Our rearing ponds and hatcheries are doing good work, but considering the extent of Ontario's bass and maskinonge waters and the enormous resident and non-resident fishing population, we can scarcely hope to produce an adequate number of these species by pond culture to close the gap between supply and demand.

In addition to the imposition of suitable closed seasons, sane creel limits, the control of competitive and predatory species, and pollution there is probably no more promising method of bass and maskinonge conservation than the establishment of sanctuaries; that is setting aside in certain suitable waters, a number of bays in which fishing of any kind is prohibited. The bass and maskinonge multiply in these areas without interference, and spread to other parts of the said lake or stream, thus preventing depletion. By such means we may be approaching the ideal of maintaining a permanent breeding stock and taking each year only the natural increase from it.

From the fisheries standpoint the sanctuary principle consists in having an area completely removed from public or private use. In view of an ever-increasing tourist trade, fishing for the species under discussion will become more and more intensive and, considering the accessibility, ease and speed with which our waters may be fished, it becomes increasingly evident that sanctuaries are necessary. Fish sanctuaries fulfil three important purposes:

(1) They give the fish a chance to grow. Fish do not grow by magic, and if we want larger and better fish, we must give them a chance to grow and reproduce normally.

(2) Sanctuaries act as bases of supply for replenishing outer or adjacent fishing waters.

(3) They may be very useful for stock and supply.

It is only within comparatively recent years that this fundamental factor in fisheries management has been pursued with vigor, and during the past few years the Department has made marked progress along these lines.

In many areas of this kind maskinonge and large-mouthed black bass live and thrive. In many, also, there are mixed environmental conditions, so that small-mouthed black bass is a frequent inhabitant also. Closures of this nature will be followed up from time to time to determine the results, and if there are deficiencies in these closed areas, it is proposed to remedy them, if possible. For example, conditions in certain areas may be vastly improved by eliminating useless competitors or enemies, and a number of areas may show distinct possibilities for rearing lunge and bass under controlled natural conditions.

It will be seen, therefore, that fish sanctuaries as well as game preserves, are essential features in a well-rounded conservation programme. A large number of these areas have already been established—for particulars consult the Blue Book—and are posted with official signs. Sportsmen may assist materially by seeing that the restrictions are observed. To paraphrase a well-known radio advertiser: Look for the white sign, the black warning letters spell CONSERVATION!

The Universal Appeal of Fishing

In a radio quiz contest held recently, according to *Outdoor Nebraska*, the question was asked, "What is the most popular sport in the United States?" and the contestants were all wrong as they answered in turn, football, golf, baseball. The correct answer, the quizzical person who puts the questions announced, is "Hunting and Fishing", with fishing having a few more followers than hunting. Discussing this subject a sporting editor with a flair for statistics asserts that close to 17 or 18 million people in the United States hunt and fish. He also points out that the estimate of football attendance made at the close of the current season gave the figures of 8,146,124 attending football games.

It will probably be admitted that the same situation prevails in the Province of Ontario for, while local residents do not require a license for fishing, it is safe to assume that there are many more fishermen than hunters because whole families can take part in the sport of angling, while adults are the chief purchasers of hunting licenses, and some 110,800 of these were sold to residents of the Province last year.

No sport has a greater universal appeal for the individual than fishing. It presents a form of recreation which is non-competitive, and which one

can enjoy without being subjected to the disturbing influence of the public gaze or the jeers and cheers which go with public sport. It is a type of sport which, because of the environment which surrounds it, offers both physical and mental relaxation. The statesman burdened with the weighty affairs of Government; the business man worried by the continual strain of economic uncertainty; the worker, weary with the constant stress of high pressure methods of production and the cares which beset the average man; all find in fishing that mental rest, physical rejuvenation and soul inspiration so necessary if one is to effectively meet and overcome the problems of everyday life.

When the peace of the world was hanging in the balance some months ago, and the Prime Minister of Great Britain had done all that seemed possible in the way of appeasement to avert a tragedy, he stole away from the cares of state for a brief period, and sought relief from the mental strain in his favourite sport of fishing. The soothing influence of the outdoors; the harmony of the stream as it ripples towards the sea; the songs of the birds and the sounds of Nature are so remote from those conditions which "man's inhumanity to man" impose that the mind and soul, seeking solace in such an environment, are refreshed and inspired with new hope. To such an environment Mr. Chamberlain took his worries, and his fishing equipment, and in the exercise of his angling skill found relief for his overwrought nerves.

Every few months the President of the United States takes time off from the strenuous and onerous duties of directing the affairs of his Government and guiding the destiny of over 130 million people, and for relaxation goes fishing. Ex-President Hoover was also a keen angler, and knew the value of this particular sport for keeping fit. He says: "The joyous rush of the brook, the contemplation of the eternal flow of the stream, the stretch of forest and mountain, all reduce our egotism, soothe our troubles and shame our wickedness. . . . Fishing is not so much getting fish as it is a state of mind and a lure to the human soul into refreshment."

As we have already said, fishing is a sport with a universal appeal because it is a form of recreation which is neither organized nor regimented. Other forms of leisure-time activities provide exercise, entertainment and competition, and, wisely chosen, are worth while. Too many people, however, derive their recreation and entertainment from watching others perform. We go to theatres or movies; or yell excitedly at a hockey match or ball game where someone else nets the puck or misses three strikes to give us a thrill, or a grouch. Yet these things are superficial pleasures in which we have no active part, and are incomparable with the experiences of the outdoors. To fish we must make a physical effort on our own behalf, and in so doing we gain much in health, initiative and outlook. This physical effort is not too strenuous, yet it is sufficient to enable one to keep fit, while the health-giving qualities of sun, wind, and the general freshness of the out-of-doors will both tone and tan the body. The fishing environment and the fishing beatitudes are not only conducive to peace of mind but are also the finest possible influence for character building. To quote Ex-

President Hoover again, "Next to prayer, fishing is the most personal thing in life."

The sport offers real and anticipatory thrills such as are not to be met with in any other form of recreation. The fight with a gamey bass or the struggle to subdue the powerful, hard hitting muskie, when the odds are not too one-sided, are thrills which have an unfailing appeal for the angler but which must be experienced to be appreciated. In short, fishing offers unlimited exciting and interesting adventures ashore and afloat.

It is well to remember at the commencement of the fishing season that fish are essential to fishing. In the Province of Ontario we are very fortunate in this regard, although for the most part these conditions in some degree are the result of the protective measures which are in force, the intensive fish culture operations conducted by the Department, and the co-operation of sportsmen in the conservation of the resources. Anglers, therefore, will contribute much to their own pleasure by avoiding waste and by observance of the regulations.

The Black Bear

Several years ago we were driving up the narrow, undulating but picturesque highway that leads by devious twists and turns to the tip of the Bruce Peninsula. Some distance ahead we spotted what looked like a large dog coming down the centre of the road towards us. "It's a bear," said our companion, displaying a keener vision than we possessed. We were somewhat doubtful, though intrigued by the thought of adventure, so we stepped on the accelerator in order to investigate. As we closed the



Ontario Black Bear.

gap between us the bear, for such it was, stopped and sat up on its hind legs. For a moment or two it appeared to meditate as the strange monster bore down upon it, then it dropped on all fours, turned around and galloped up the road again. From the safety of our speeding auto we pursued this wanderer from the haunts of Nature, and, somewhat bewildered, it continued to gallop ahead of us. Finally, when we got almost within striking distance, it suddenly swerved off the road into the bush. It was an almost fully grown black bear, with a lovely glossy coat and a patch of white on the chest. The experience was quite thrilling, although there was no danger involved—unless, perchance, we had misjudged our speed and come into contact with its rear end—for the bear is afraid of man and usually not dangerous except when fighting for its life or protecting its offspring.

The black bear (*Ursus Americanus*), once ranged all over the Province, but it has more or less deserted the populous areas and is now to be found mainly in the unsettled parts. The bear is carnivorous, i.e., it belongs to the group of mammals known as "flesh-eaters", although its diet is extremely broad. It is very partial to insects and honey, is particularly fond of fruits and berries, but to satisfy its enormous appetite also eats small mammals, birds, frogs, fish, etc.

The black bear hibernates during the winter, denning up under a convenient root or other suitable sheltered spot where it contrives to cover itself with brush and leaves, further protection being afforded by the deep snow. It is during this period of hibernation that the young are born early in the year. When born, the cubs, usually two in number, are about the size of squirrels, and for a long time are quite helpless. However, when the weather is warm enough for the mother to leave her den, the cubs are sufficiently strong and active to follow her. The young are very playful and quite amusing to watch, in fact their almost human-like antics have resulted in their being dubbed "clowns of the woods". A characteristic of the bear is that it can walk erect almost like a man, and seems to enjoy this pose.

Those who are accustomed to the forest trails are familiar with the sight of trees gashed and clawed by the teeth and claws of the bear. Sportsmen have a legend that the bear is measuring his height on the tree, but he is probably just sharpening or testing his claws, as your pet cat is wont to do on dad's chair or the family chesterfield; or perhaps he is just hanging on while he scratches himself on the trunk. Another familiar sight on the bear trail is that of rocks and stones, either dislodged or turned over, signifying that the bear has been searching for insects. During the heat of the summer the bear loves to wallow in the mud and water after the fashion of the pig. This not only promotes cleanliness but serves to keep him cool.

Bear hunting affords the sportsman tremendous thrills, and the lucky nimrod who returns from the chase with a two or three hundred pound specimen feels extremely proud of his skill. Perhaps this is occasioned by the fact that the bear is a very powerful adversary, and while he is more or less afraid of man will not hesitate to fight when cornered.

Changes in the Act

Amendments to the Game and Fisheries Act provided at the 1939 Session of the Legislature, of interest to hunters and anglers, are as follows:
Subsections (2), (5) and (6) of Section 40:

- (2) It shall be unlawful for any person to use snares for any purpose in the Counties of Victoria, Peterborough, Hastings, Lennox, Addington, Frontenac, Leeds, Grenville, Peel, Carleton, Dundas, Durham, Glengarry, Lanark and Stormont.
- (5) It shall be unlawful for any person to hunt, kill or destroy more than six cotton tail rabbits in any one day in the Counties of Essex, Kent, Elgin, Haldimand, Middlesex, Oxford, Waterloo, Lambton and Welland.
- (6) It shall be unlawful for any person to sell, offer for sale, purchase or barter, or to be concerned in the sale, purchase or barter of any cotton tail rabbits in the Counties of Essex, Kent, Elgin, Haldimand, Middlesex, Oxford, Waterloo, Lambton and Welland.

Section 41:

41—It shall be unlawful for any person to discharge any air gun, gun or other firearm in any locality where game is usually found between one-half hour after sunset on Saturday night and one-half hour before sunrise on Monday morning following (standard time) or between one-half hour after sunset and one-half hour before sunrise (standard time) at any other time except as may be provided by regulations.

Section 45; and add subsection (2):

45—(1) It shall be unlawful for any person to hunt or shoot any protected or unprotected bird or animal with a shotgun of the description known as "automatic" in which the recoil is utilized to reload the gun, or to carry a gun of this description for such purpose; provided that this section shall not apply to any automatic shotgun which has been reconstructed and plugged so as to be incapable of holding more than three shells at one time, one shell in the barrel and the others in the magazine.

(2) In those parts of Ontario where it is permitted by regulations to take, kill or shoot pheasants it shall be unlawful for any person to hunt or shoot any protected or unprotected bird or animal with a rifle or to be in possession of a rifle for such purpose, during the period of time pheasants may be lawfully taken, killed or shot.

Subsections (1) and (2) of Section 59:

- (1) It shall be unlawful for any non-resident, entitled to hunt or shoot in Ontario by virtue of a license under this Act, to export in any

one open season game actually and lawfully killed by him in excess of the following: one deer, one bull-moose or caribou, bears or bear pelts, one hundred ducks and fifty geese.

- (2) The shipping coupon belonging to such license shall be attached to every such animal or to the receptacle containing it or any part of it, or containing any ducks or geese.

Subsections (5a) and (5b) added to Section 68:

- (5a) Any person who commits an offence against this Act or the regulations in respect to maskinonge shall for each offence incur a penalty of not less than \$10 and not more than \$100 for each maskinonge the subject thereof.
- (5b) Any person who commits an offence against the provisions of Section 58 in respect to the shipment of the skins or pelts of fur-bearing animals by aeroplane shall, for each offence, incur a penalty of not less than \$50 and not more than \$500.

Section 70 is added:

- (70) No lease or conveyance granting exclusive fishing rights to any person in or along any stream or lake which has been stocked with fish of any variety by the Department at any time after the 1st day of May, 1934, shall be valid unless such lease has been submitted to and approved by the Department; provided it shall not be necessary for any such lease in existence prior to the coming into force of this section to be so submitted and approved.

Special Fishery Regulations

Maskinonge Open Season: North and west of and including the French and Mattawa Rivers and Lake Nipissing, June 20th to October 15th.

South of the French and Mattawa Rivers and Lake Nipissing from July 1st to October 15th, except the waters of the River St. Clair, Lake St. Clair, Detroit River, and Lake Erie south of and fronting all counties other than the County of Essex, June 25th to December 15th, and the waters of Lake Erie, fronting and south of the Townships of Malden, Colchester South, Gosfield South and Mersea in the County of Essex, lying west of the line 82 degrees 30 minutes W., July 10th to May 24th.

Note—Limit of catch, two per day; season limit, fourteen.



Fishing With a Pin

When I was a little shaver with a straw hat badly worn
(All the crown deep-crushed and dented, and the brim cross-stitched and torn)

I used to go a-fishing, and sometimes wading partly in
Where the stream was very shallow, to catch fishes with a pin.
I would take a pin and bend it to the much desired crook—
For it took a full-sized penny if I bought a steel-made hook—
And when the worm was on it, it was happiness run o'er
Just to hold it in the water, with one foot upon the shore.
I could not land a big fish, but my wishes then were small;
And the big boys with their steel hooks sometimes caught no fish at all.
But I'd often get a nibble, though I sometimes used to wait
And twitch in vain—then look and see the capture of my bait.
But luck some days was better, and the shoals of small fry came;
And when I pulled the line out, it was not without its game.
A red-fin or a shiner I lifted out upon the grass,
And felt the thrill of greatness o'er my moistened forehead pass.
True, I've fished with better weapons and in more exalted ways,
Since I used the feeble pin-hook in the long since vanished days;
But I never took the pleasure in the landing of a fin
That I took in early childhood just in fishing with a pin.

—*Joel Benton (Tony's Scrap Book).*



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

June-July
1939

HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

VOLUME FOUR

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NUMBER TWO

An Appreciation

BY the sad and tragic passing of Lawrence Day, ex-President of the Ontario Federation of Anglers, the cause of Conservation loses one of its most enthusiastic and energetic workers. A keen sportsman himself, he loved the out of doors, and in his fishing and hunting trips found relaxation from, and inspiration for, a busy life.

During the past two years he was President of the Ontario Federation of Anglers and presided over the last convention of that body, held early this spring. It is not an exaggeration to say that during his term as President the activities of the Federation were greatly increased and its sphere of influence considerably broadened. There was, for example, the essay contest which, through deft organizing work and excellent newspaper co-operation, proved to be of splendid educational value. It was under his guidance also that the bass poster was designed and completed. We have before us a copy of the last monthly Bulletin issued by the Federation which bears his signature and evidence of his artistic skill. In these and many other ways his ideas and ideals were translated into action.

His skill with rod and reel are too well known among anglers to require more than passing reference. He was an expert with both bait and fly rods, and the refinements of his equipment were mostly the product of his own hand and brain. Guns, rods, reels, and the other accessories which delight the heart of the sportsman were either personally made or adapted to his own requirements. His home workshop was the envy of his friends and the creations which emanated therefrom were a joy to behold.

It was our pleasure and privilege to be in his company on many hunting and fishing outings, and the charm of his personality was just as intriguing under these circumstances as when he was presenting the views of the Federation on some matter of importance to Anglers. Sincerity was the keynote of his character.

This appreciation is mostly inspired, however, by the desire to pay homage to one of the foremost exponents of conservation and good sportsmanship in the Province. Lawrence Day was mild in speech and manner, but these very characteristics lent power to his words and his addresses before the various sporting organizations which he visited from time to time were always masterpieces of easy wit, constructive admonition and sporting idealism.

The Department of Game and Fisheries deeply regrets his passing, and extends sincere sympathy to his widow and family.

The High Cost of Poor Sportsmanship

One of the appalling things about modern civilization is the tremendous cost of protection. Glance over the situation for a moment and you will observe that the measure of freedom to "live, move and have our being" according to the tenets of our advanced civilization is possible only through the expenditure of a large proportion of the national income. Most of the nations of the world today are literally impoverishing themselves to provide armaments, including weapons of offence and defence, and the feverish and war-like activities which result are a constant threat to freedom. Vast armies, and navies, permanently maintained, are not only costly but are a sad exposure of our human frailties.

The same lack of moral strength is responsible for the fact that for law enforcement and the protection of property another force of guardians is necessary, so we have our vast organization of Dominion, Provincial and Municipal police. There are other expenditures for protection which will readily come to mind, but for our purpose let those suffice.

The outstanding thought which immediately occurs to us is that these protective measures are made necessary solely by the fact that the standard of human morals—sense of right and wrong—is poorly developed. In other words, we must be protected against ourselves.

These remarks are developed from the thought that to protect the resources which make hunting and fishing possible it is necessary to maintain a large number of law enforcement officers. Obviously, therefore, the cost of poor sportsmanship comes high. To curb game law violators is just as essential as restocking our lakes and streams, and the pity is that it should be necessary. The regulations are restrictive only as necessity demands, while the limits are generous enough to satisfy all reasonable requirements. That being so there appears to be little reason for violations, and yet the toll of destruction by illegal means is too high to lightly pass over.

It will be obvious to the sportsman who is concerned with the future of his sport that waste and extravagance are unnecessary evils which tax to the limit the reproductive capacity of our wild life, aided by artificial propagation, to maintain a normal supply to meet what, after all, is an abnormal demand. In order that our fish and game resources may be wisely used for the benefit of the greatest number, protective measures, and protective officers to enforce these regulations are necessary, but these can only function effectively when backed by the co-operation of the sportsman and the weight of public opinion. These conservation measures are costly and poor sportsmanship is a major factor in boosting the cost.

In this connection the following article from the Colorado Conservation Comments, which we reproduce in part, has just come to our attention and tersely expresses the ideas we had in mind:

Enough Fish

As the fishing season gets into full swing, two brands of anglers are whipping our streams. There are sportsmen; and there are "sports". The former are conservators; the latter sometimes are called "fish hogs". The latter are a dwindling minority.

There are laws and there are wardens. The laws are the "rules of the game". The wardens are, in some respects, referees. But the final judge of fair play is that intangible personality called The Public.

The Public will condemn a ring fighter for a foul blow, rise in anger at dirty slugging in a football scrimmage, and demand the disqualification of a jockey who breaks the ethics of clean racing. There is a strange and somewhat unaccountable tendency on the part of The Public to condone or let pass the violation of game laws, the rules of the game, when a fish hog oversteps the line of decent sportsmanship and grabs more than his share.

The Game and Fish field force can crack down on violators when they encounter them and have the evidence. Courts can back up the laws with fines and sentences. But the greatest power in securing game law observance is the righteous scorn of those who love fair play.

It is easy to understand the fever that seizes a fisherman when trout are striking like mad and the excitement of the catch begins throbbing in the pulse. The hunger for what we now recognize as sport is rooted back in our aboriginal ancestors; deep graved in human character. Some of our ancestral savagery rises within us in hunting and fishing. But the measure of an individual's degree of civilization, his right to fellowship in today's organized humanity, lies in his ability to control such impulses.

All that may be a fine line of philosophy. There is a more fundamental angle.

Our streams have long since passed the point where they can be fished to the limit and without regulation, which might have been possible in savage days. Laws are based on the idea of having enough for everyone. The limit (20 fish a day or 10 pounds, Ontario) should allow any clean sportsman to have all the trout he may use for himself and party. Even the practice of "not letting the fish go to waste" is open to question if an angler indulges in a fish-catching binge and then, when his conscience rises to accuse him, he downspouts conscience by giving a lot of his catch away.

There are wardens and there are laws. But the strongest power in conserving our fishing resources so far as the fish hog is concerned is the blacklisting of anyone who oversteps the limits of decent sportsmanship. There are offenders among our clubs, who spout conservation gospel, and when alone on a stream, desert the principles of conservation, which are based on rational use. There are offenders in every class and station. Their true sportsmen friends know them. But never tell on them. That, by some strange line of reasoning, is not "sporting"; to turn in a law violator, a fellow who breaks the rules of the game, one who lands a foul blow as he plays.

There is no intent to preach. There is a positive intent to bring out the fact that adherence to the law, the rules of fair play, lies more in the hundred thousand fishermen than in the hands of the game wardens. Any time the fish hog breaks over, goes greedy, grabs more than his share, he is robbing the other fellow and is doing just as much damage to his future fishing as he is to the other fellow's sport.

Maybe it is too much to expect every man in the field to set himself up as his own warden. Too much to expect to have him turn himself in for violation. But every decent outdoorsman can set himself a code of ethics, of fair play in the field, be a conservator by using the wildlife resource and not misusing it and abusing the privilege enjoyed when he does go hunting or fishing. Anyone who claims brotherhood with sportsmen can do that; and do his share in enforcing the creed. Fishing season is on full blast. And the future of the sport rests on the man in the field. Under-size fish "sneaked" into a pan, limit-and-then-some catches, even if distributed to friends, unfair practices of any sort that hurt good fishing of the future, are something a sportsman will not countenance.

Well, say——! We really don't want to preach. All we had in mind was to sort of voice the ideas that are in the thoughts of anyone who is a real sportsman. If you qualify, you may say, 'Amen'. If you don't, you'll just have to live with your conscience and suffer the deep and sometimes hidden contempt of your sportsmen friends.

Here's hoping you get enough fish——!

Maskinonge



Whence and what are you, monster grim and great?
Sometimes we think you are a "Syndicate",
For if our quaint cartoonists be but just
You have some features of the modern "Trust".
A wide, ferocious and rapacious jaw,
A vast, insatiate and expansive craw;
And, like the "Trust", your chiefest aim and wish
Was to combine in one all smaller fish,
And all the lesser fry succumbed to fate,
Whom you determined to consolidate.

(Wilcox).

The bass and maskinonge season opened on July 1st under favourable weather conditions, and with every prospect of affording the angler good sport. Bass appear to be quite plentiful in most waters, and as far as can be judged by pre-season reports should satisfy the most exacting demands. The situation with regard to the maskinonge is not so well known, because, while this species is widely distributed, such distribution is irregular and therefore, more difficult to keep tab on. However, it is believed that in the recognized "musky" areas the sportsman will find no diminution in the available numbers. He will also be interested to know that special facilities have been provided for experimenting in a much larger scale than ever before with the culture of this popular and gamey fighter.

In attempting to provide some information as to the life history of the maskinonge we are immediately puzzled by the multiplicity of names by which this fish is, or has been, known. Scientists and naturalists, aided by the angler himself, have apparently combined to saddle this particular species with as many names as the child in the one-time popular song who, born during the South African war, was called after every ranking officer who took part in the campaign with a few of the important towns thrown in for good measure, or metre! In the case of the "musky", to give it its popular title, the angler must not be surprised if he hears it called, or sees it described, under twenty or more varieties of the same sounding word, all of them recognizable as referring to the "Maskinonge", as it is officially known in the statutes of Canada. Fortunately for our peace of mind the poet has left us a comforting thought when he suggests that "a rose by any other name would smell as sweet". The fighting characteristics of this popular fish will not be diminished by whatever appellation it is known so maskinonge it is, while "musky" and "lunge" will serve for variations.

The life history of the maskinonge is not such an open book as that of many other popular species of game fish, one reason being that it is comparatively a rare fish and its popularity is of recent date. It spawns in shallow water, where there is an abundant growth of vegetation, in the early spring—late April or early May. When spawning the maskinonge swim around in pairs, keeping the same relative position in turning, going under logs, etc., as if they were cemented together side by side. They generally remain close to the surface of the water. In fact, their dorsal and caudal fins frequently rise above the surface. They appear to keep close to the edges of open space of water, that is, when they enter a small, clear area of water they swim close to submerged dead tree trunks or clumps of grass rather than directly across such an area. During these manoeuvres they move slowly and often pause a moment or two. The male is more alert, but nervous, and during the spawning act the fish roll over on their sides, their ventral surfaces approximating for an instant. This is done several times, the eggs and milt being extruded and scattered among the vegetation of the waters of the swamp. Male maskinonge do not make nests and protect their eggs and young fry like the bass.

The rate of growth during the early stages is quite rapid, for the maskinonge is a voracious eater and grows to a large size. While in the fry and

early fingerling stage it is probable that its food consists of much the same diet as that of other species of little fish—plankton, water fleas, etc.—but it is not long before it is feeding on minnows, and showing the results of its rapacious appetite. In adult life it subsists entirely on fish, frogs, snakes and the young of such aquatic mammals or water fowl as are unfortunate enough to stray within its reach. As a matter of fact, nothing in the shape of food comes amiss to a “musky”.

The maskinonge is more or less a “lone voyager”. He has the habit of lying alone in the seclusion of the vegetation and rushes which grow along the shore, or at the edges of the streams and channels which are his natural environment. Where there is a lack of vegetation, such as in a clear lake, he loiters beside overhanging rocks or banks. From these points of vantage he darts open-mouthed upon his prey. His large head and enormous, almost terrifying jaws, provide capacity and power for devouring quite large fish, so that the yearly toll of the “musky” for food purposes must be quite heavy.

The immense size attained by the maskinonge and its proportionate weight make it attractive to anglers, although in its own right it is a magnificent game fish. If taken with reasonably light tackle it exhibits a tiger-like ferocity, leaping, splashing and making wild dashes for liberty, and if not checked in time will dive for the weeds, from whence its capture will be much more difficult. Unlike the bass or the speckled trout, which display a great deal of cunning in their efforts to throw a hook, the “musky” depends mainly on its great strength, the length of its body preventing the sharp doublings which are characteristic of the smaller game fish.

In a previous issue of the Bulletin we described the physical characteristics of the maskinonge and explained how to distinguish it from the pike, something which is often puzzling to the inexperienced angler. The simplest and most reliable means of distinguishing the two is by the colour and markings. In the pike the ground colour is bluish or greenish gray with irregular whitish or yellowish bean-shaped spots arranged in more or less longitudinal lines from head to tail. The maskinonge, on the other hand, has numerous black spots, bars or blotches against a light grayish ground colour with a silvery sheen. Briefly, in the pike the background is dark and the markings lighter, while in the maskinonge the background is light and the markings dark.

Artificial Culture

For a number of years the Department has carried on spawning and hatching operations in connection with maskinonge propagation. Fortunately, the “musky” may be stripped of its eggs, and hatching is then a routine matter. However, up to the present it has not been economically possible to hold the young over longer than the fry stage. Maskinonge culture beyond this initial stage is still a matter of experimentation. The Department is now engaged in such experimental work at Deer Lake and Burleigh Falls with a view to discovering the most satisfactory and economical method of raising the fry to at least the late fingerling stage, so that

larger numbers will have a greater possibility of living to maturity. The problem of live food, however, is one fraught with many difficulties.

Close to three million maskinonge have been planted in suitable waters this year.

Animal Diseases Perpetual Problem

In a recent article in the Bulletin we discussed the subject of tularemia in rabbits, and pointed out in this connection that wild life was subject to most of the ills which afflict humanity without any means of combating these diseases except the provision made by Nature for either "killing or curing". In the well-ordered scheme of Nature such provision as there is would effectively take care of the so-called "balance" which controls supply and demand. Unfortunately Nature's plans and man's ambitions have clashed, with the result that wild life has fallen heir to many diseases not contemplated in the original plans. These diseases, many of which are the result of the economic and industrial development of the country, are a perpetual problem to wildlife administrators and conservationists generally.

Duck hunters will be particularly interested in the following article emanating from The American Wildlife Institute, and issued under date June, 1939.

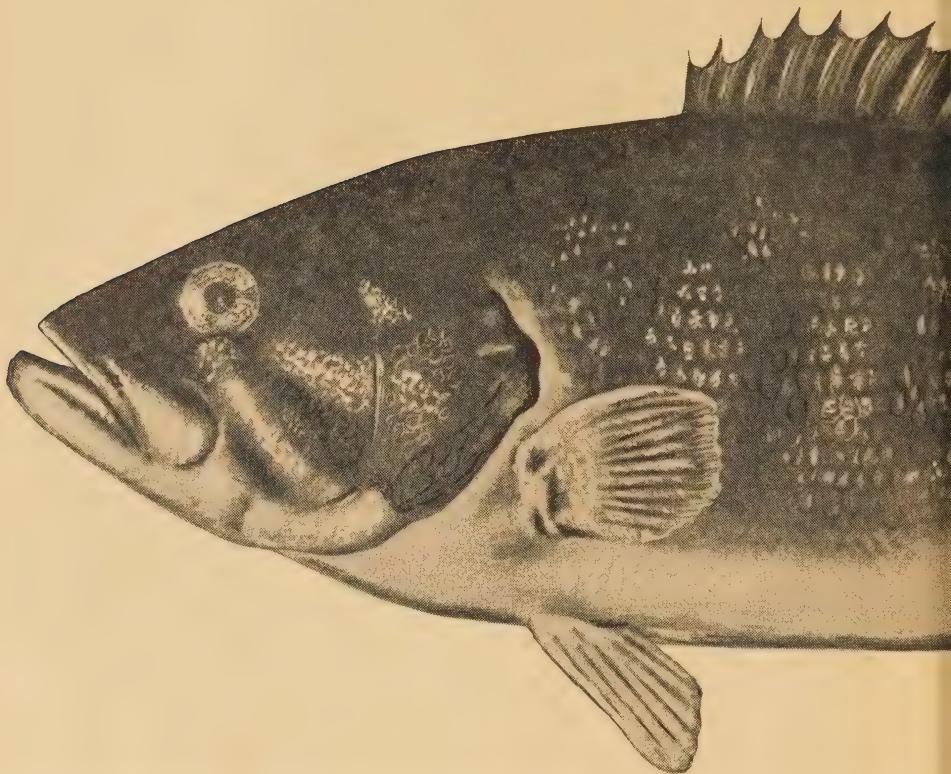
"Great strides may be—and are being made in conserving and restoring wild birds and animals. No matter how effective the work of the many agencies engaged in preserving and restoring wildlife, there is an ever-present threat of disease. The entire work of those who have rehabilitated wildlife on our refuges, years of effort on the part of game management experts—all might be wiped out almost overnight by a severe epidemic of disease. Standing guard against such a contingency is a section in the United States Biological Survey. Dr. J. E. Shillinger, in charge of the Section of Disease Control of the Biological Survey, can tell you all about the work being done to prevent disease from wiping out the country's wildlife.

"Disease is prevalent among wild animals and birds—and it is destructive to wildlife," he will tell you.

"There is a widespread misconception that creatures living in the wild are free from disease because of their close communion with Nature and because they are not beset by the artificial conditions with which man has surrounded himself. The truth is that for almost every disease known to mankind, a similar wildlife ailment is known. Why, wild animals even have toothaches—and apparently very severe toothaches. Decay sets in and becomes so severe in certain species that sections of the mandible, or jaw bone, will often rot entirely away. Undoubtedly the animal suffers while this decay is going on. He is just like a human in this respect, but we humans have one advantage. We can go to a dentist and have our teeth fixed. The animal cannot.

"Tuberculosis, sylvatic plague, tick fever, botulism, and many other forms of disease also attack animals. Of them all, botulism probably is the most destructive to wildlife at the present time."

PROTECT THE



Life Size Reproduction of

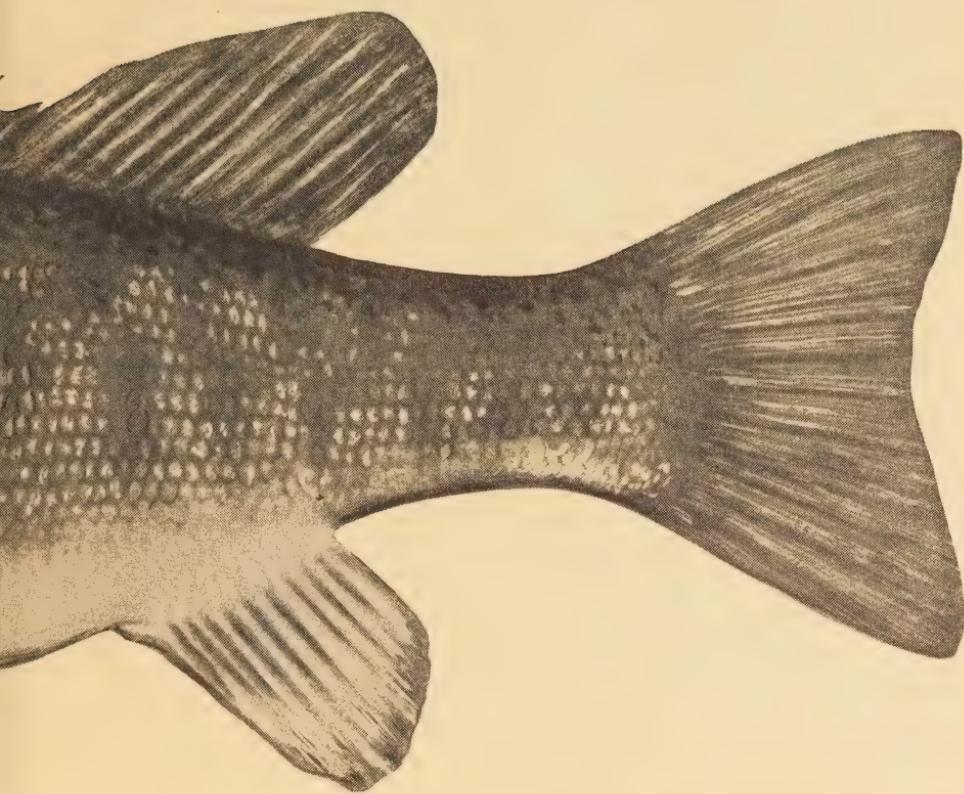
"Measurement shall be from the tip of the snout to the centre of the

Bass of legal size, as shown above, may be taken from July 1st to October 31st.
Any fish smaller than ten inches must be returned to the water.

It is the duty of every citizen to assist the Department of Game and Fisheries
in cases of gross disregard to the nearest Game Warden or Provincial Police.

This notice is posted in the interests of conservation
And under the authority of The ONTARIO

BLACK BASS



en Inch or Legal Size Bass

Page 138, Sect. 4, Sub. Sect. 3, Ontario Game and Fisheries Laws, 1938

5th inclusive. Not more than six legal size fish may be taken in one day.

s to enforce this law, by strictly observing it themselves and reporting all

THE ONTARIO FEDERATION OF ANGLERS
PARTMENT OF GAME AND FISHERIES

Botulism, which is sometimes known as duck disease or limberneck, we learn affects any and all waterfowl and shore birds that take food from shallow water. It causes paralysis of certain groups of muscles, often resulting in horrible death for the afflicted birds. Botulism is caused by toxins or poisons formed by an organism that lives in the absence of free oxygen, scientifically known as anaerobic bacteria. This bacterium must have an alkaline environment. It cannot breed when there is an acid condition. In an alkaline environment, when there is no free oxygen, the bacteria create the poison or toxin which, when consumed by the birds, causes botulism.

A somewhat similar disease is sometimes encountered in men, to whom it is known as ptomaine poisoning. If certain types of alkaline products are sealed in tight containers, such as cans, without completely killing off the anaerobic bacteria by sterilization, the toxins created often have very serious effects. This is not a very common danger to man today because of the great care exercised in the canning of foodstuffs. In marshes decayed matter accumulates under the surface of an alkaline lake or pond and creates an ideal breeding place for the anaerobic bacteria, which in turn creates the dangerous toxins. Birds, digging down into the mud for food, consume sufficient quantities of the toxin to induce paralysis, or even death. Afflicted with the disease, their heads droop—hence the name limberneck, applied colloquially to botulism—and they become more or less completely helpless, depending upon the amount of toxin they have consumed.

Botulism reaps a terrible toll each year. Eight to ten thousand ducks dead from the disease have been picked up in a two-mile stretch of shore along one river. On the Bear River marshes of Utah it has been estimated that annual losses ran from 30,000 to 100,000, or even more in former years when the malady was particularly severe. It may safely be said that the loss of birds from botulism amounts to hundreds of thousands each year.

Two Methods of Control

Two methods of possible control of botulism have been developed. First we can control water levels. We have learned that birds don't get botulism in deep water. Often by raising the water level just a few inches the toxins are diluted to the extent that they are practically harmless. Sometimes, through the co-operation of local sportsmen's organizations, marshes suitable for waterfowl can be drained during the late summer months, which is the bad season for botulism, and re-flooded during cold weather when the danger period has passed.

Dr. Don R. Coburn, now stationed at the Patuxent Research Refuge in Maryland, has recently shown that certain types of vegetation have a neutralizing effect on the toxins which cause botulism. Although it is too early to be certain yet, it is possible that the growth of these types of vegetation may profitably be encouraged in localities where botulism is rampant.

The actual treatment or curing of sick birds will never give complete control of the disease. However, when possible, we are doing all in our power to treat diseased birds to help check the terrible losses. This is done

by securing the co-operation of state conservation departments, local sportsmen, boy scouts, and others interested in picking up sick birds in affected areas. These sick ducks would undoubtedly otherwise be doomed to perish, baked to death in a blistering sun, or in some cases drowned, because they could not hold their heads out of water.

Once picked up, these ducks are put in shaded places, protected from predators, and many recover. They cannot eat, because they are paralyzed, but giving water through a stomach tube often aids recovery. Certain products, such as formalin, when added to the water, appear to neutralize the toxins in the digestive tracts. However, the inroads of botulism can never be successfully checked by curing the sick birds. We must, through more research, develop satisfactory ways and means of preventing the disease from attacking. For this purpose the Biological Survey has a special laboratory located in the Bear River Refuge in Utah, at which much worthwhile research is being done. Also much valuable work on the factors entering into the botulism problem is being done at the Co-operative Wildlife Research Unit of The American Wildlife Institute at Logan, Utah.

Some of the other diseases affecting wildlife have a direct bearing on mankind. This is one of the factors that makes the work of those seeking to control diseases in wildlife so important. For instance, encephalomyelitis, commonly known as sleeping sickness, affects horses, and is also known to have been communicated to humans, with dire results. The disease has been found in pheasants, and is experimentally known to be infectious to a rather wide group of animal life. There is a possibility that recognized epizootics in the equine family find reservoirs of infection in wildlife. In other words, it is possible that the disease is being kept alive in certain wild animals all the time, then is communicated to domestic equines by mosquitoes or other biting insects during the times of the year that they become very plentiful. Since the disease has been known to attack man this makes its study in wildlife of great importance.

Sylvatic Plague

Then, too, we have what is known as sylvatic plague in animals. Sylvatic plague is neither more nor less than the bubonic plague, which once wiped out large populations in cities of Europe, Asia, and other countries before the discovery of America. As almost everyone knows, the disease known as bubonic plague when it attacks man, and as sylvatic plague in animals, is carried by a certain type of flea which infests rodents. The disease came into this country on rats from foreign ships on the West coast. It spread to squirrels and other rodent forms of wildlife, and has now been discovered as far east as Dillon, Montana. This is important because it was once thought that should the disease be transmitted over the high altitudes of the Great Divide, it would spread rapidly among the many gophers, prairie dogs, and other rodent forms of the middle West, and might possibly become epidemic among humans.

There seems no danger of this sylvatic plague attacking the people of North America as bubonic plague, but this instance is cited to show the great need for constant vigil to reduce and control disease in wildlife.

Of course, almost everyone is familiar with the communication by ticks to humans of the dreaded spotted fever disease. There is very little danger of humans getting this disease if the common sense rules laid out by local and federal health authorities are observed, but ticks are an important source of disease spread to cattle—and to wildlife.

Tick Fever

The Texas fever tick, which did great damage to cattle, has been practically eliminated. The reason this particular tick could be destroyed with comparative ease is too long to tell now. A tropical variety of tick, discovered in the southern part of Florida, is more difficult to subdue. To eliminate this species, and keep it from being communicated to domestic stock, it may be necessary to kill off the deer in the affected territory, as was done to eliminate hoof and mouth disease in the Stanislaus National Forest area of California. As in the case of the Stanislaus National Forest, the deer can then be re-introduced and their numbers raised to the present figure after the ticks have been eliminated.

Both wild animals held in captivity and those raised on breeding farms suffer from disease—and to a greater extent than those in the wild. More closely concentrated, they can communicate diseases with greater ease. It is also true that wild animals have not built up a racial resistance to diseases of contamination and pollution. In their native environment they have not developed a tolerance to barnyard conditions such as our domestic poultry and farm stock possess. Hence, when confined in pens on game farms and fur farms, infections frequently take a heavy toll.

The Bass Poster

On the centre pages we are reproducing copy of a poster which will be found at most summer resorts and bass fishing waters this year. It is sponsored and distributed by the Ontario Federation of Anglers and is proof of the good work in the interest of conservation which is being accomplished by this executive group representing many angling associations scattered throughout the Province. It represents the spirit of the times among all decent sportsmen, and carries with it a strong appeal for the co-operation of every angler with those whose duty it is to enforce the regulations.

There possibly never was a time in the history of wild life administration when the sportsmen were more deeply conscious of the necessity for exercising restraint, observing regulations and playing the game according to the best traditions, than just now. Education and organized effort have done much to bring about this happy state of affairs. No longer is it considered smart to disregard limits of size and creel, for such waste is a boomerang which destroys faster than any remedial measures can restore. No longer does the possession of a big string of fish or even a bag limit signify piscatorial skill. The hero of the waterways is he who returns from his day's fishing with a clear conscience and pleasant memories, even if his creel be empty. For such a man fishing is a sport pregnant with thrills,

and dead fish are but incidental. In short, conservation as it affects the individual is more than law observance, although the latter is of primary importance, and is therefore mandatory. The ethics which apply are not written on the statute books, but are a voluntary contribution representing personal restraint and an attitude of mind which reflects true sportsmanship. Conservation and sportsmanship are closely allied.

It is a splendid sign to find the sportsman himself through representative organizations pointing out to fellow sportsmen certain laws and fundamental principles with regard to his sport. Law observance is so essential to good government and wise administration that the thoughtful man needs no special reminder of his duty in that regard. To the angler the laws which govern his sport are so necessary to its perpetuation that their observance is the best contribution the individual can make to the protection of the resources which make it possible.

We congratulate the Ontario Federation of Anglers on its initiative and feel sure the bass poster will materially aid not only in the protection of bass, but also in making the angler more conscious of his personal responsibility for the maintenance of good fishing throughout the Province.

Know Your Bass

Memorize these poems and you'll always know the difference between large- and small-mouth black bass.

SMALL-MOUTH BLACK BASS

The little-mouth has little scales,
There's red in his handsome eye,
The scales extend on his vertical fins,
And his forehead is round and high.

His forehead is round and high, my boys,
And he sleeps the winter through;
He likes the rocks in the summer time—
Micropterus dolomieu.

LARGE-MOUTH BLACK BASS

The big-mouth has the biggest scales,
And a pit scooped in his head;
His mouth is cut beyond his eye,
In which there is nary a red.

In his eye is nary a red, my boys,
But keen and well he sees;
He has a dark, broad stripe on his sides—
Micropterus salmoides.

—Fred Mather.

Mass Production of Pheasants

Some time this Fall there will probably be an open season for pheasants in many townships throughout the southwestern part of the Province. In the meantime many private individuals are raising pheasants for sale to the Department, while the bird farm at Codrington is working at capacity to augment the supply.

Recently we read somewhere a quip to the effect that this is the season when every office man thinks there is a fortune to be made in raising chicks! Probably the same general idea prevails in connection with the mass production of pheasants. Let us assure the inexperienced that the process is not quite so simple or so enriching as it sounds. Ask the farmer or his good wife who raise the Christmas turkey if there are any heartaches in the game, even with a natural mother, then magnify these difficulties one hundred-fold, and you have some idea of the worries incidental to raising sufficient birds under artificial conditions to satisfy the demand of the thousands of upland game hunters who take advantage of the fall shooting privileges.

In the first place mass production means just what it implies, and the process as applied to wild life increases the complications. The mother pheasant makes her nest, lays the eggs, and in due course by the exercise of patience hatches the chicks. Left to her own resources she nurtures them, teaches them to feed and protects them from foreign invasion. It is a simple process and a very successful one.

The commercial producer, on the other hand, keeps an extensive breeding stock and daily gathers up the eggs. These he places in trays in a mechanical incubator whose inner workings have been adjusted to conform to the bodily temperature of the mother hen. The heat and humidity in the incubator must be constant and in order to accomplish this, the external conditions must also be more or less unvarying. After 21 days, or when the chicks show signs of trying to emerge from the eggs, the trays of eggs are placed in another compartment called the hatching compartment, where the chicks finally struggle out of the confinement of their prison cells to the strange atmosphere of an alien world.

It is a pleasing experience to open up the hatching section and find scores of fluffy little balls of downy feathers chirping excitedly and tripping over one another in their eagerness to get nowhere quickly. However, therein occurs the first headache, for on removing the chicks one is likely to find a great many eggs which for one reason or another have produced no life, unless, of course, these have been taken out earlier after a candling examination for infertility. Many factors may cause lack of production in the hatch, such as weak germs, heavy inner texture which the chick cannot break down, infertility, extreme changes in temperature, too much or too little humidity, etc. These non-productive factors, of course, upset the initial calculations, and the schedule receives its first setback.

When the chicks are transferred to a brooder house, where an oil or electric stove with an umbrella-shaped canopy for confining the heat is

kept running, they are lively, but almost completely lost because no maternal care or advice is available. They are, as a consequence, and from the human standpoint, terribly stupid. The first inclination appears to be to try to escape from their new home, and so they engage in a mad rush around the brooder seeking a hole or corner which offers protection. In this initial experience of the protective instinct they are liable to pile up in a corner, and the result will usually be a number of smothered birds. This tendency to pile up requires careful observation, particularly during the first few days. Too much heat will drive them away from the stove and probably into a huddle, while too little will have the same effect. When fear strikes them these huddles are a regular stampede, and losses invariably occur as a result.

We have noticed, too, that very young birds frequently find themselves on their backs, and if the floor is a wooden one, have the greatest difficulty in getting on their feet again. They will kick and struggle until exhausted, then lie still and probably be tramped to death by the other birds. Quite often we have entered the brooder and found several chicks stretched out on the floor, apparently unable to get up, but after placing them on their feet again they have run away quite lively.

There are many other ways that these motherless chicks have of eliminating themselves and depressing the raiser. They sometimes drown in the water fountain or strangle themselves in the wire netting. Often the more hardy will start picking the toes of others less active, even to the extent of dragging them around the brooder. The result is usually a dislocated leg, which naturally weakens the bird and will also cause losses. However, when they have passed the first critical days and have learned that food, water and protection are being provided, their growth and development is quite rapid.

Naturally, as soon as possible, they are permitted to run out of doors in pens when the weather is suitable. Very fine mesh wire is necessary for this purpose because they easily crawl through a one-inch mesh.

Having raised them to the stage when wings and feathers are developing nicely and they are beginning to take care of themselves, the breeder naturally assumes that his troubles are over. He is lucky if they are. Constant vigil is still necessary or casualties will continue to result. There was, for example, the day we walked into a pen to pick up a dead bird and discovered half a dozen, all told, newly killed by a weasel. They were several weeks old, so it was a rather maddening sight. The same thing occurred once more in another pen before we were able to exterminate the marauder.

When the birds are several weeks old they naturally require more room. Congestion in the pens will frequently cause them to begin picking one another, and when they have drawn and tasted blood the habit is intensified and the unfortunate are picked to death, unless discovered in time.

All these and many more are the tribulations of the pheasant breeder, and merely emphasize the fact that when man seeks to improve on Nature his efforts are fraught with many difficulties.

A Guide's Greetings

An so my fran you wan to catch de so beeg speckled trout
An jus for dees you mak de treep away up from de sout
Restez Bien, mon vieux ami, you reach de propair place
For trout dats less dan wan feet long we tink is a disgrace.
Of course we got some big portage to find de most best lac
But wan you mak return at night you tote one heavy pack.
Beyond dem far off hills, by gar, der lacs where no one feesh
Of course de trail she's pretty rough, but I go if you weesh.
And higher up among de rocks is so nice mountain stream
Where speckled beauties jump at flies just lak you often dream.
You tink I shoot de beeg hot air about de feeshes size
But all de habitants will say Pierre don't tell no lies.
Tomorrow morning we get up just at de brak of day
An den I mak de proof to you de trut of what I say.
We catch some minnies in de trap along dat little creek
An den we jump in de canoe and cross de lac we sneak
Perhaps at first we troll a bit wit spinner on de line
Cause down be-neet de water dat flasher look quite fine.
Now if de trout she's feedin and de bait is whats shes like
Why den by gar you feel heem when shes make de sudden strike.
Now hold heem tight—tak up de slack—be sure de hook she's set
She's jump and dive and splash and run before she's in de net.
De speckled trout what leev up here is mighty foxy feesh
An just so many get away as end up in de deesh.
Now after lunch we seet and smoke and talk a bit an rest
And de sky and lac she's brightly blue and dees world seems like de best
An later in de afternoon when trout begin to rise
We try our luck along de shore with different kind of flies,
An when de sun she's settin an all de sky's aglow
We've had a good day's feeshing and back to camp we go
By gar de supper shes taste good, de fresh fried feesh shes swell
You nevaire get no grub so fine in any beeg hotel.
An den de shiny stars come up de whipoor-will shes sing
You sleep like one small garcon weet happy dreams to bring
Bon soir, mon vieux, dormir bien, tomorrow we go try
Anoder lac—anoder stream—anoder day goes by.

—*Sunclo Sonnets.*



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

Exhibition Number
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HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

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Wild Life Exhibits

The Canadian National Exhibition and the Central Canada Exhibition held annually in Toronto and Ottawa, respectively, afford the people of the Province and visitors to the fairs the opportunity for considerable education and enlightenment as to the progress of industry, engineering and science. The opportunity to display their wares and thereby foster trade is the magnet which attracts exhibitors, who pay substantial sums for the privilege. As a result of these displays, millions of people become familiar with the manufacturer's product and business receives an impetus.

It is fitting that the Ontario Department of Game and Fisheries should have on exhibition at each of these fairs a representative selection of the wild life natural resources of the Province because there is need for our citizens to become more familiar with these resources from the standpoints of physical knowledge and material or recreational value. In varying degrees of confinement therefore, the public will find at each of these exhibitions a collection of birds, mammals and fish, both native and exotic, typical of the available resources.

We should like to ask those who view these exhibits to give them more than a cursory glance or a passing thought. They represent a public heritage of tremendous importance in which all of the people of the Province have a proportionate share. This legacy however, is in the form of a life lease and it is a condition thereof that it shall not be dissipated. We are, of course, privileged to use and enjoy this heritage—for nature has provided that within reasonable bounds it is self-renewing, and with proper care should supply the needs of this and future generations. Such a condition demands that there shall be no waste or illegal taking; that those who partake of the recreational advantages which wild life provides shall strictly observe the regulations which govern even to the point of limiting their take to personal requirements within the law rather than to the limits which apply, and that every citizen will accept a personal responsibility for the protection of the resources.

As a means of acquainting the public with the conditions which prevail and the work being done to perpetuate and develop this valuable asset, we are briefly recapitulating herein the game and fish situation and the conservation measures in force for securing adequate protection and sane use.

While the wild life resources of the Province are extensive and varied it is generally known that certain sections are more adapted to some particular species than others and that as a consequence our mammals and birds particularly are to be found in varying quantities in different sections of the Province. Deer, for example, are more numerous in the north than in the southern part of the Province while pheasants are to be found in the south and not at all in the north. In the following paragraphs we have briefly outlined the districts where the different game animals and birds are mostly located and at the same time endeavoured to state the situation with regard to abundance or scarcity of each:

Deer

The white tail or Virginia deer common to this part of the Continent continues to be fairly plentiful in various sections of the Province, and the hunting of these animals during the regular open season provides an opportunity for the sportsman to partake in a most exciting and enjoyable form of recreation. The chance to take part in a deer hunt should not be passed over, for it means several days of close contact with nature and the things of nature, as well as the pleasing experience of those intimate friendships which the environment of the hunting lodge always inspire.

Reports submitted by members of the Field Service staff indicate that so far as the northern and north-western portions of the Province are concerned, generally speaking, conditions are quite favourable. There are, of course, certain scattered sections where the herd is not as plentiful as in others. Because of their easy access, extensive hunting is carried on in the



Whitetailed Deer

northern districts of the southern part of the Province, but despite this fact, deer in these sections are still quite plentiful, in fact are showing a decided increase in numbers in some areas.

In the Counties included in the southwestern peninsula and in certain eastern counties there has been an entire closed season on deer for the past several years. Because of this protection, deer in these sections have become quite numerous, and it is no unusual occurrence to see one or more of them as one motors along the highway. In Bruce and Grey Counties the increase has been so favourable as to warrant the Department providing an open season there during the past two or three years.

With a reasonable measure of protection and the co-operation of the public to that end, the deer herd is capable of replenishing itself and taking care of all reasonable demands.

Moose

The Moose is the largest of the deer tribe found on the American Continent. It is majestic in appearance with a large spread of antlers adding to its value as a sporting trophy. It is to be found only in the northern portion of the Province, though a few specimens are frequently seen in the districts of Muskoka, Parry Sound, Renfrew and in the immediate vicinity of Algonquin Provincial Park. Nowhere in Ontario however, can they be described as plentiful, and restrictions for their protection which have recently been added to the statutes are absolutely necessary to ensure the perpetuation



Woodland Caribou

and rehabilitation of this noble animal. In certain sections they are reported to be fairly plentiful, but future development will depend upon many factors such as use and environment. Even the great northland is opening up before the ever progressive advance of civilization.

Caribou

The caribou is a near relative of the reindeer of Northern Europe and is the most useful, and perhaps the most comely of its race. It has few of the prepossessing physical endowments of the elk and none of the grace of the deer. Caribou are extremely scarce in the Province and are reported only from the districts of Rainy River, Kenora and Thunder Bay, also from the northern portions of Algoma and Cochrane. Perhaps because of the fact that they have been completely protected for a number of years a slight increase in their numbers has been noted in the eastern portion of Thunder Bay and in the Chapleau Crown Game Preserve, which is located in the districts of Sudbury and Algoma.

Elk

The Wapiti or American Elk has been fittingly described as "the antlered monarch of the waste", and is one of the largest specimens of the deer tribe.



Wapiti, or American Elk

He is also without doubt the most beautiful and stately animal in all the deer family. Although as large as a horse his physical appearance is such as to immediately attract attention. The magnificent antlers often measure six feet in length and these added to a graceful and compact body give it a stately appearance.

The Elk which are to be found in Ontario at present are those which were imported to the Province from Western Canada, and their progeny. The original shipments were made with the approval and co-operation of the Dominion National Parks Branch, and on arrival here were placed on the following Crown Game Preserves, viz.,—Pembroke, Burwash, Chapleau, Nipigon-Onaman and Goulais-River-Ranger Lake.

There has been some improvement in practically all instances save one,—those liberated on the Nipigon-Onaman Crown Game Preserve. Elk from the herd at Pembroke have been placed in Algonquin Park and on the Bruce Peninsula, while some animals from the herd at Burwash were liberated in territory immediately adjacent thereto. It is reported that their numbers have increased in the Chapleau and Burwash Game Preserves and also on the Bruce Peninsula, while some of these animals have been observed on Beausoleil Island in Georgian Bay.

Bear

Black bear are common throughout the northern portion of the Province, are quite plentiful in many other sections such as the Bruce Peninsula and are to be found to a lesser extent in Parry Sound, Muskoka, Haliburton, Renfrew and the northern part of Hastings County. These animals are both hunted and trapped although not extensively, but there is an indication that increasing numbers of non-resident hunters are becoming interested in the spring hunt which has been provided during the months of April and May. The sportsman gets a great thrill out of bear hunting because to most people the name is synonymous with danger and this lends zest to the experience.

Rabbits

Rabbits continue to provide many opportunities for wholesome recreation, and more particularly is this so in the southern counties. In this section of the Province cotton-tail rabbits are available in satisfactory numbers, although in certain counties bag limits have been introduced and the sale or barter prohibited. The varying hare or snowshoe rabbit is to be found in most districts although it alone is the prevailing species in northern Ontario, and while it is reported to be quite scarce in that area there are indications of improvement in some districts. The jack rabbit (European Hare) is pretty well confined to the western counties though this species is gradually extending its range to the east and north.

Rabbit hunting is a favourite activity of Ontario sportsmen during the fall and winter months. The "jack" is probably the most popular of the

species because of its size, its great speed and the fact that it is to be found in open country which makes its pursuit easier. Its speed is its chief defence and it is not easily subdued.

Hunters should note that while rabbits are quite prolific breeders there is just as much danger of exterminating them through needless waste as any other species of Game. This is particularly true in the more populous areas, where hunting is heavy and habitat restricted. Control is necessary to prevent damage to property, but game which provides such healthy outdoor sport at a minimum of expense is worth conserving.

Game Birds

The mammals enumerated in the preceding paragraphs are those of most concern to sportsman and while no attempt has been made to present anything in the nature of a life history, the information given as to the situation with regard to each will doubtless be of interest. However, Game Birds also occupy a large place in the recreational activities of the sportsman so it is fitting that brief mention should also be made of some of these.

Partridge

The ruffed grouse, or partridge, as it is generally called, is a native bird and is found in varying numbers throughout the Province. In the more settled sections its numbers are limited, and it is further subject to a cycle of scarcity and abundance which materially affects its permanent develop-



Ruffed Grouse

ment. However, at the present time the cycle appears to be on the up grade again and improvement has been noted in Northern Ontario and the northern districts and eastern counties of the southern part of the Province.

The sharp-tailed grouse or prairie chicken is found only in the north-western districts and while comparatively scarce, reports are to the effect that they show signs of increase.

The ruffed grouse is perhaps the fastest and most elusive of our upland game birds and the sportsman who bags one on the wing may consider himself lucky, or a good shot, depending on his own attitude in the matter.

Quail

These birds are found principally in the counties of Essex, Kent, Lambton and Middlesex, and in counties immediately adjacent to the eastern boundaries thereof, and in which section they are fairly plentiful. Scattered bevies of quail are reported also in some eastern counties, that is, Stormont, Dundas and Glengarry. The peculiar call of the quail, interpreted generally as "bob white" is well known to sportsmen and nature lovers.

Pheasant

The English Ringneck Pheasant is, as its name implies, an exotic or non native bird. It was introduced to the Province originally about half a century ago and since then has undergone a process of natural and artificial development which has served to firmly establish it in certain areas,—particularly the southwestern part of the Province where the climate is not too rigorous.



Pheasants

Because of the fact that climatic conditions are extreme over much of the Province it is unlikely that the pheasant will have an extended range. However, it has done so well where it has become established that open seasons have been the rule for a number of years.

During the past three years the Department has greatly enlarged and intensified its operations in connection with the propagation of the ringneck. Last year, for example, some 20,000 of these birds were released in suitable locations and as a result open seasons were proclaimed in over 50 townships. This year more birds will be available for distribution and many additional townships will be enabled to take part in any open season that may be proclaimed.

Hungarian Partridge

These birds were also introduced to the Province from Europe but have not yet become very plentiful anywhere. So far as the north is concerned their numbers are negligible though evidence of their existence is reported from certain sections of Thunder Bay, Algoma and Temiskaming. They are most numerous in the very extreme southwestern counties, while recent reports indicate that they are becoming more plentiful in some of the eastern counties.

Ducks

There are a great many species of ducks but for the sake of brevity all are included under the one appellation. Generally speaking, this species of migratory waterfowl provides quite a large proportion of the sport which is available to the hunter during any season, and as the season is a reasonably long one the sportsman should have few complaints in this regard. Practically every section of the Province has its quota of ducks during the period prior to migration. For the past two or three seasons additional restrictions affecting the taking of ducks have been provided with a view to affording a larger measure of protection. The results have been very beneficial and census returns show that their numbers have materially increased. Regulations for the taking of ducks are provided by the Federal Government under the terms of the Migratory Birds Convention Act, which affects Canada, the United States and Mexico.

Geese

There are not many areas in Ontario in which these birds may be successfully hunted and while they are observed in flight during the fall and spring migrations, in numerous sections the conditions which prevail during these migrations are such that during the open season which is provided, any hunting which is available is pretty well restricted to the James Bay shore in the far north, and to a few of the extreme southwestern counties. There are several different species of geese of which the "Canada Goose" is perhaps the best known.



White-fronted Goose

Greater Snow Goose

Canada Goose

Woodcock

This species is extremely scarce in northern Ontario, and is none too plentiful in the southern portion of the Province. Reports to the Department show the most favourable locations to be certain of the counties along the north shore of Lake Erie.

Snipe

As in the case of woodcock, snipe are quite scarce in the northern districts. They are reported to be somewhat plentiful in a number of the eastern counties, while increasing numbers are recorded in scattered areas throughout the southern counties.

Furbearing Animals

The fur industry of the Province is of very great economic importance and as an indication of the available species and the intensity with which they are trapped, we append herewith the latest available returns which show the number of pelts of the various species which were exported from or dressed within the Province during the season 1937-1938:

	1937-38
Bear	496
Beaver	235
Fisher	1,463
Fox (cross)	2,426
Fox (red)	24,912
Fox (silver or black)	201
Fox (white)	47
Lynx	1,284
Marten	1,709
Mink	22,766
Muskrat	343,972
Otter	3,737
Raccoon	13,194
Skunk	61,576
Weasel	79,853
Wolverine	5
<hr/>	
	557,876

Fish Culture

One of the most important duties of the Department is the work of artificial propagation as carried out in the Provincial Fish Hatcheries. Facilities for such work have been greatly increased during the past few years and the general expansion has resulted in a wider and larger distribution. It is perhaps not inopportune to mention here that fish hatcheries and rearing ponds are just as necessary to modern fish culture as are incubators and brooders to the successful poultry raiser. It has been established that under natural conditions the reproductive mortality rate is high, and because of the tremendous increase in the numbers of fishermen who daily whip the waters of the Province in search of certain desirable species known as "game fish", natural production will in most cases not take care of the demand. Nature has made generous provision for replenishing the waters but does not differentiate between game fish and other species so that by concentrating his energies on the game fish the sportsman interferes with nature's plan and other measures must be taken to maintain the supply. The facilities of

a modern fish hatchery make it possible to eliminate most of the losses which occur in the egg stage and to hatch ninety to ninety-five per cent of the spawn. Of course, it is not suggested that this large percentage of artificially hatched fish will reach the adult stage, or even survive the fry stage, but so many more fish are produced under the hatchery plan that it is obvious that a much larger total will ultimately become the legal prey of the angler.

The planting of small fish of course inevitably results in losses, because these are the natural prey of other larger fish, often of the same species. This leak cannot be entirely plugged, but, more and more, facilities are being provided for the artificial rearing of many species of game fish to a size that will permit them to take care of themselves to a much greater extent. This has been the policy of the Department with regard to speckled trout and various other species of the trout family for the past few years. A glance at the accompanying table will show that several millions of trout of yearling or adult size were planted in suitable waters during the period covered. As more facilities become available for holding over the young fish until they attain a size which will ensure greater self protective powers, a still larger number will survive, and replenishment will be that much greater.

The following summary shows the various species of fish raised in the Department's hatcheries and rearing ponds and planted in suitable waters throughout the Province during the calendar year 1938. It is not without pride that we note that the total exceeds the combined plantings of all the other Provinces combined.

Species	Fry	Fingerlings	Yearling and		Totals
			Older		
Lake Trout	12,690,000	10,575,200			23,265,200
Herring	45,200,000				45,200,000
Whitefish	382,200,000				382,200,000
Maskinonge	2,005,000				2,005,000
Perch	59,150,000				59,150,000
Blue Pickerel	500,000				500,000
Yellow Pickerel	275,592,500				275,592,500
Speckled Trout		374,314	2,064,290		2,438,604
Brown Trout			58,592		58,592
Atlantic Salmon			4,800		4,800
Rainbow Trout		321,600	7,227		328,827
Small-mouthed					
Black Bass	804,000	169,800	7,668		981,468
Large-mouthed					
Black Bass	57,500	8,061			65,661
Kamloops Trout		25,815		25,815
Totals	778,199,000	11,474,790	2,142,577	791,816,367	

The distribution of fish for restocking the different waters has been greatly facilitated since the advent of the automobile, and the general use of trucks for transportation purposes. From the hatcheries the fish are transported in cans or tank cars, and the actual planting is usually carried out with the assistance of the local Game and Fish Protective Association, and under the supervision of a qualified officer of the Department.

The necessity for intensive propagation and distribution will be better understood when it is realized that the water area over which the Department has jurisdiction approximates 80,000 square miles. To keep these waters stocked, in view of the almost unlimited fishing to which they are subjected, is a task of tremendous importance. The excellent fishing, which still prevails in most waters, affords proof that the activities of the Department in this respect are meeting with a large measure of success, and that supplementing the work of nature is a primary essential of the Conservation Programme.

Conservation

In the preceding pages we have endeavoured to give some idea of the abundance, or otherwise, of game in the Province and to point out the work which is being done to maintain the fish supply. The conservation of these natural resources and the administration of the laws which govern is the duty of the Department of Game and Fisheries. Protecting and perpetuating this valuable asset is not left to chance for, in addition to the laws which ensure wise use through the establishment of open and closed seasons, bag limits, etc., provision has been made for perpetuation and natural development through the setting aside of extensive land areas as game preserves. The extent of these areas is not generally appreciated but it may help to visualize them when we state that the total acreage thus set aside is larger than the area contained in the whole of the southwestern section of the Province situated within a line drawn from Hamilton to Grand Bend on Lake Huron, with the Counties of Huron and Waterloo thrown in for good measure. Most of this vast hunterless area is situated in northern Ontario where natural conditions still more or less prevail. Game within these sanctuaries is protected as far as possible from human interference and natural development is thereby stimulated.

With the same idea in mind, certain water areas are also set aside for varying periods and all fishing is prohibited. Obviously, if the area is a productive one, it will soon replenish itself and the overflow will serve as a basis of supply for re-stocking other waters.

The Game and Fisheries Laws are an important part of the general programme of conservation. They are intended not only to regulate supply and demand, but also to ensure that natural reproductive periods will not be interfered with. Where closed seasons are in effect there is a sound biological or practical reason for same, and where open seasons are restricted

it is because the particular species involved will not stand any excessive take over a lengthy period. Bag limits and limits of size where such are involved, are regulatory measures intended to control by providing for a reasonably equitable distribution of the available resources, and by ensuring that game fish will not be withdrawn from the waters until such time as they have reproduced their kind. A moment's thought will convince even the most indifferent that these regulations are of primary importance in the interest of the sportsman himself and the administration of the resources. That being so, it is essential that the public should be familiar with them, and that all those who hunt or fish should strictly observe the regulations. To play the game fairly according to the rules, is the first essential to good sportsmanship. When therefore, the public is urged to observe the laws it is a request for co-operation in the management of a valuable trust. Non-observance of the regulations, however unimportant the details may seem, is unfair to that ever-increasing family of sportsmen and nature lovers who conscientiously obey the laws and pursue their recreational pleasures from the highest standard of sportsmanship.

There is an additional reason why the public should accept an ever-increasing share of the responsibility for the protection and proper use of our wild life resources; we refer to their value—material and recreational. The material worth of this important heritage cannot be properly computed but it is not too much to suggest that thousands of our citizens derive their livelihood either directly or indirectly from this natural resource. The commercial fishing industry, the fur business, transportation companies and tourist caterers—all these are directly interested but in addition there are the allied industries which supply food, equipment and the requirements of transportation and accommodation. Yes, this natural heritage is rich in material wealth, and, being capable of renewing itself, becomes a perpetual annuity which only our own shortsightedness will dissipate.

Wealth without health becomes an asset of doubtful value. In estimating the worth of our wild life resources therefore, we feel that the incentive to health and happiness which they provide is of major importance. Man is by instinct an outdoorsman. The artificialities of modern civilization are something he must put up with because life is exacting and necessity is a stern taskmaster. In the environment of lake and stream, forest and field, he readily finds relaxation and rest. Fishing and hunting, as we have frequently remarked, are the finest antidotes for weary bodies and tired minds. They take us into the great out-of-doors where the air is pure and the problems of life assume their proper perspective. But more than that, they provide physical exercise and those adventurous thrills which the heart craves and the soul delights in. On the fishing ground or in the hunting field worry ceases to exist and the whole body tingles with a new vitality. Fish and game therefore have a recreational value which probably is of more importance than their material worth. In any case, an asset which combines these advantages and in which all of us have an equal share is surely worth

conserving and the best way to do so is to prevent waste, observe the regulations and co-operate wherever possible with those who are working to the same end.

An Important Industry

The Canadian National Exhibition marks the close of the holiday season, except for those who have been unable to take their vacation during the summer months. By this time schools are re-opening and families are returning to their homes after several weeks of exhilarating pleasure and relaxation at camp or resort. This holiday migration,—the desire for change, and the chance to get away from the sweltering heat of the city to the woodland areas and cool swimming beaches with which nature has so bountifully provided us,—is a source of industrial revenue which serves in no small way to maintain the equilibrium of our economic development. There is a tendency for industry to centralize in towns and cities and as a result these areas are thickly populated and wealth becomes concentrated. Fortunately there are natural advantages and physical attractions in the great open spaces which are so necessary to our well being that the economic progress of the country as a whole follows a well defined scheme of inter-dependence. The tourist traffic has become one of the largest industries of the Province and its ramifications are such that, directly or indirectly, both urban and rural districts share in the revenue therefrom. The influx of American visitors to the Province, estimated as more than twice the total of the resident population, provides a cumulative gross revenue of well over \$100,000,000. This particular business has its stock in trade in those physical attractions and natural resources which are a part of our heritage, and from which we derive a great deal of material wealth.

The part which the fisheries of the Province play in this leading industry is not far to seek. From an American Conservation publication we cull the following: "Fishing has become the nation's most popular sport, serving fishermen has become one of the nation's biggest businesses and every state that can is competing for that trade. Ocean Ports are featuring sport fishing and inland states are boasting as to the game fish that their waters have to offer.

Advertising lures affect the migrating tendencies of the fishing army but back of them is the all important character of the actual fishing that may be available."

In other words fishing is the magnet which attracts a very large percentage of our tourist guests, but the feature which keeps them coming to the Province, in ever increasing numbers, is the fact that the actual fishing available meets the most exacting demands. To maintain this happy condition the public must realize the value and importance of our inheritance—terrestrial and aquatic—and co-operate with the Department to effectively conserve these resources.

Let Nature Succor Her Own

In a recent issue of a Toronto newspaper a great deal of space was given over to an illustrated news story describing how a young lady of tender years—12 to be exact—"all by herself and with bare hands" caught two half-grown eagles on the farm where she lives and conveyed them to a chicken-coop where she was feeding them "until she finds whether any park or zoo wants them." The story graphically explains how the young lady thought they were partridge and therefore she grabbed them without fear of danger to herself from powerful claws, a sharp beak and strong wings, any or all of which are capable of inflicting injuries on the unwary. The story is interesting and full of intimate details supplied by this brave little miss and the reporter adds the information, which we readily believe, that she "is a great lover of the wild things—groundhogs, rabbits and pheasants." It is because we know that this love of nature is often misplaced, as in this instance, that we offer these comments:

For most of us there is something about wild life, met in its native habitat which fascinates and intrigues. If we discover a bird's nest we are immediately tempted to carry off one or more of the tiny coloured eggs; if we come across a fawn or the young of any other animal lying in some sheltered spot, apparently helpless and forsaken, our sympathies are at once aroused and we are tempted to take them home to offer them care and protection; should we see a young fledgling floundering along on unsteady wings, our impulse is to pick it up and perhaps take it with us, for obviously, it has been deserted and is in danger because of its helplessness. These impulses are altogether too often translated into action, with dire results to the species we are attempting to protect.

Nature herself is the best protector of her children and her plans for so doing are wise and complete. Very rarely are these allegedly helpless birds or animals unable to take care of themselves if left in the wild. The doe is seldom far from her fawn and the mother bird is usually close enough to take care of her offspring. If it should happen that by some mischance the parents have been killed, natural instinct will usually come to the aid of the young. In any case, they have a much better chance of surviving and at the same time fitting themselves for their natural environment if left to their own resources. The chick, which sympathetic hands helps out of its shell will usually be crippled or too weak to survive, and the young to which misguided nature lovers are so keen to afford assistance will be handicapped in the battle of life. In the case of the chick, Nature has provided that it shall obtain its initial strength through its struggle to break out of the shell, and to assist it, but serves to prevent proper development, while the young found in the wild, and apparently struggling helplessly, are merely passing through the natural stages of development. Lovers of the wild things should restrain their impulse to help and let Nature nurture and protect her own children.

To return to the story however, we note that the newspaper report states that there is a penalty for killing eagles in Ontario. This is quite true, but it should be noted also that it is illegal for any person to "molest, take or have in possession" any bird protected by the Game and Fisheries Act during an unlawful period. The eagle is a protected bird, therefore it must not be molested, and capturing it alive would also be illegal. In the case under discussion the youngster presumably thought the birds were partridge until she had caught them, but as partridge are also protected there is still a technical offence under the law. We mention this phase of the matter not with any intention of condemning or criticising the child, our experience being that lack of knowledge on the part of children is merely a reflection on adult training, but rather with the idea of stressing the fact that, however kindly disposed we may feel towards the struggles of immature wild life, it is in most cases neither legal nor desirable to interfere with it.

How Not to Fish

While on the subject of newspaper stories, we notice in the same edition a photo of a proud youngster, aged 15, holding up a 21-pound maskinonge which, according to the caption, he caught with a garden hoe. The story is that he found the fish floating alive near the shore, clouted it over the head several times with a hoe until he killed it, then took possession. We are sure it was quite a thrill to the youth and we know that a monster of this size would excite the envy of all his companions, but just in case this rough-house method of fishing should spread, we feel that a few words of comment are necessary.

Fishing, as we have so frequently mentioned, is sport—not the mere catching of fish—and as such should be played according to the rules of the game. There is no provision in the regulations for taking by means of a hoe! Indeed, there is a very mandatory rule that "no one shall fish for or take maskinonge otherwise than by angling", and "angling" is defined as "the taking or attempting to take fish with hook and line held in the hand, or hook and line and rod, the latter held in the hand". You see the point we are trying to make: clubbing a fish to death may be tremendously exciting, but it isn't sport, and is definitely illegal.



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

October - November
1939

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

VOLUME FOUR

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NUMBER FOUR

Between Seasons

*"The frost is on the pumpkin,
The corn is in the shock,
We pause between the seasons
To take account of stock.*

*Lookin' backwards regretful,
Cause fishin's on the wane,
But tickled pink a-thinkin'
Huntin's here again."*

National Sportsman.

PISCATORIAL experts, and those who are just as enthusiastic but not so expert, have laid aside their equipment for another year and are now quite content to react to the thrills of pleasant memories. Taking it all 'round it has been a very successful season, and we feel sure there are few disappointed anglers. Reports reaching the Department from all parts of the Province indicate that, despite heavier fishing than ever before, both by residents and non-residents, our waters still continue to meet all reasonable demands. Of course there were days and times when certain fish simply refused to bite, and on these occasions the inexperienced are apt to complain that fishing, like the old grey mare, "ain't what she used to be". The experienced angler however, knows that such a condition is perfectly normal, and the fact that fish are not biting at some particular time is neither proof of scarcity nor evidence of depletion. We went bass fishing on Labour Day with a fisherman friend of ours and on the way to the location we listened attentively while he described certain experiences he had had fishing the same spot on previous occasions. "Last time I was out here," he exclaimed enthusiastically, "we could see dozens of beautiful big bass swimming about, but, despite the fact that we literally dangled our baits before their noses we could not induce them to bite. Two days before that we got a lovely catch from the same hole."

The fact that fish will strike savagely at certain times and not at all at others is not so peculiar as it appears. Eating is a very pleasing experience, but neither humans nor animals have the desire or capacity for continuous

consumption. There are many hours during each day when the digestive organs have severed relations with the appetite and the lure of food makes no appeal. The same situation prevails with regard to fish, therefore, between feeding periods, fishing is apt to be light. However, according to latest developments, the angler need not waste his time fishing on non-productive days or during non-feeding hours for it is now possible to procure a calendar based on the tides and scientifically worked out to show the days and hours in each month during which the best fishing may be expected. We have no personal knowledge of the accuracy of these prognostications, and mention the fact merely to emphasize the statement that "no bites" do not imply "no fish". The tired businessman, who dashes off to camp for an all too brief week-end and finds the fish are observing a closed season on his favourite lake is apt to jump at unwarranted conclusions, and frequently gives voice to his disappointment. The family knows better, however, and there is a strong hint of sympathy, even if it lacks the power to console, in the enthusiastic ejaculation of the boy "Oh dad, if you'd only been here yesterday!"

Speaking of disappointments, we have a feeling that most of the time the sportsman, who is out for thrills rather than fish, can satisfy his desires. The trouble is that we have developed what might be termed "aristocratic tastes" and in the pursuit of our pleasures have established certain species as essential to a perfect day. When the small mouth aren't biting, what's the matter with the rock bass, the sun fish, or the bull heads? None of these have the fighting qualities of the black bass, but they are capable of affording a great deal of pleasant recreation. Indeed, in very many States they are protected and limits of catch prescribed. If speckled trout are not rising to a fly, how about trying your luck with pickerel? It may mean moving to different waters, but in these days of rapid transportation this is no particular handicap. Should your favourite weed bed refuse to give up that fighting musky you know is lurking there, why not move into deeper water and try for one of those sparkling lake trout which are undoubtedly to be found through the exercise of a little patience? Fishing demands resource and a knowledge of environment. You will have a great deal more fun if you develop the one and acquire the other.

To get back to our original theme, however, the past season appears to have been a very successful one. By that we mean that fish were plentiful in most waters, and resident as well as non-resident anglers report satisfactory sport. Bass and speckled trout made a large contribution to the anglers' pleasure. From widely separated districts have come written and verbal reports that bass fishing was excellent. The president of a large conservation group of sportsmen told us last night in response to a query, that among the islands of the Georgian Bay on a recent holiday he had had the best bass fishing in years. Officials of the Department, on a brief but extensive fishing tour along the north shore brought back stories

of wonderful bass fishing all along the route. A non-fishing friend of ours, who, because of the nature of his work, seldom gets a vacation during the summer, had the good fortune this season to spend a week at a cottage on the Bruce Peninsula. While there, he was persuaded to go fishing with a party of neighbours, and his enthusiastic recital of the thrill of the sport and the quantity and quality of the bass they readily obtained was quite entertaining. From the Lake Erie resorts come reports that the early bass fishing was the best in many years. That statement sounds prosaic, but coming from a region where fishing has always been relatively good, it assumes an important significance.

We cannot begin to comment on all the other species, except in a general way, but if newspaper reports and pictures are any criterion, then the public ought to be satisfied. Stories of big fish rather than big catches, which is as it should be, occupied the spotlight. For example, we have before us a clipping from a recent issue of the Wiarton Canadian Echo which gives prominence to the fact that a local angler was proudly displaying around town two beautiful trout that he had taken from a small stream in the neighbourhood. One was a speckled beauty twenty-one inches long and weighing three pounds five ounces, the other was a brown trout nineteen inches long and two and one-half pounds in weight. Over in Meaford, tourist officials were photographed the other day with the largest trout ever taken by angling in local waters. At the moment we have forgotten the exact weight but it was well over thirty pounds. In this morning's paper is a news item of the capture of a forty-three pound muskie in the Bay of Quinte. And just to show that all this is not mere propaganda we quote from a letter received a few days ago from an American visitor. The letter is dated St. Louis, Mo., and states:

"In acknowledging receipt of your letter of August 8th and the material covering the region in which we intended to take our vacation, I want to thank you for the valuable assistance in making our trip a pleasant one. We had a most delightful, educational and successful trip through Northwestern Ontario. Fishing was good and the people were exceedingly hospitable."

When the tourist is satisfied we believe the residents can have few complaints.

Now that the season is over, brother angler, and experiences are but a memory, why not devote some of your leisure time during the long winter nights to the work of ensuring that these happy conditions which we have enumerated will be maintained? You can probably do this best by associating yourself with one of the Fish and Game Protective Associations which have already been formed for the purpose of co-operating with the Department to conserve the resources by educating the public in general, and the sportsmen in particular as to the necessity for law observance

and a mental outlook based on the highest ethics of sportsmanship. Organized effort can do much to mould public opinion, and when an enlightened public realizes the economic and recreational value of our natural heritage, we feel sure that a respect for the regulations and a desire to protect the resources from illegal abuses or excessive taking will follow. The programme of the Department for maintaining the supply of fish in the waters of the Province is both extensive and up to date. To be completely successful it requires the individual and collective support of all of the sportsmen of the Province, and when this is vouchsafed, the permanency of our recreational advantages will be assured.

The Annual Sale

The annual sale of confiscated firearms, fishing equipment, etc., took place last month. If you have never visited the Department's vault during the three days that these articles are on view, you probably do not appreciate the extent of the protective work represented in the sale. This year there was amassed as large a collection and as varied an assortment of firearms as has appeared for years. All told, there were on view 321 firearms—rifles and shotguns, which represents an increase of almost 100 over last year. Probably the first thing that attracted the attention of a visitor to the display was the large number of .22 rifles. As a matter of fact they represented about 50 per cent. of the total. All makes of this popular little firearm were to be found stacked up precariously against the wall, and looking them over one found German, Belgian, American and Canadian makers represented. In value and appearance they ran the gamut from the cheap little toyish-looking affair to the aristocratic repeater. Some were well preserved and showed signs of loving care, others had definitely "fallen upon evil days" and lost their attractiveness. There was one we particularly noticed which bore the earmarks of boyish resource. It was crudely bound together with electric tape, lead paper from a cigarette package and bale wire. Despite these rough and ready repairs the barrel still wobbled dangerously, and we can imagine the owner thereof was in jeopardy every time he fired it.

These little .22's in the hands of inexperienced youth and irresponsible age are the bugbear of the protective officers. They are easy to hide and difficult to detect when in use, because of the comparatively slight report which follows their discharge. The carrying capacity of a high-powered .22 is too frequently disregarded or not fully appreciated, and as a result there is always an element of danger in their indiscriminate use. As a word of warning we urge that they should never be fired with the gun elevated so that the course of the bullet is unrestricted. To do so is to court trouble, for a stray bullet can be just as deadly as one which has been deliberately aimed and the result may be equally tragic. When using a .22 therefore, for hunting or target practice, make sure before you fire it that if the

bullet should miss its mark it will bury itself in some obstruction close by. Play safe and you may save yourself years of regret.

To return to the gun sale, however, the balance of the firearms on display was just as imposing in appearance and varied in make as the .22's. There were shotguns of all makes except automatic, and ranging from .410 to 10 gauge, while the assortment of rifles was even more varied. One gun immediately caught our eye because of the length of its barrel and general appearance. It was an old Enfield, dated 1864, and duly embellished with a crown and the words "Victoria Regina". Originally, it may have been a muzzle-loader for there was provision for a ramrod, but it was equipped with a swing breech which opened like the lid of a box. It was still strong and apparently quite serviceable, but we fancy its weight would lessen its popularity. In any case, it probably was an heirloom with which its late owner failed to associate either sentiment or romance for he took a chance on an out of season buck and lost out.

There were other more or less ancient muskets in the group about which one might easily weave historic romances, but in their present associations they had lost their glamour and were headed for the antique chamber. Nevertheless, they were apparently still serviceable, for each had been seized for an infraction of the Act.

In case you get the idea that these rifles and shotguns were all hoary with age, let us hasten to assure you that there were many modern and efficient firearms in the group. In addition to all the well-known makes of sporting guns, pumps, repeaters and other distinctive actions, there were at least two adapted Lee Enfields and two Ross Military rifles, dated 1905, which bore a familiar look to the "boys of the old brigade" who marched away so cheerfully to a protracted adventure on foreign soil during 1914 and subsequent months. There was also a German Army rifle which had been converted into a .12 gauge shot gun with bolt action. Of very fine and distinctive workmanship was an English double barrel shotgun made by one of the leading makers. Also, of more than passing interest, was a combination rifle and shotgun, and an adaptation of the same idea which necessitated carrying two barrels around and substituting one for the other as occasion demanded. The owner of one gun had evidently taken great pride in its appearance for he had gone to some pains to decorate it with rather amateurish diamond shaped inlays. Whatever pride he had in the appearance of his gun, however, apparently did not extend to his sportsmanship. Finally, we were impressed by the fact that in these firearms were represented all kinds of actions and safety devices, from the ramrod to the modern automatic.

In addition to the firearms there was a miscellaneous collection of fishing equipment; rods, reels, tackle boxes, baits, creels, minnow pails, etc., and other isolated articles such as axes, flashlights, lanterns, packsacks,

duck decoys and a club bag and motor rug. The seizures in this group represented an increase of 35 per cent. over last year.

Of lesser interest but probably of just as much importance from the standpoint of conservation were several lots of steel traps, numbering some 433 in all. This number is less than half the total offered at the previous sale, which probably means that the extensive prosecutions and heavy penalties imposed last year for illegal fur dealings have had a salutary effect.

Ducks

The duck season in the northern zone opened with a "bang" on September 15, and as we write, sportsmen in the southern zone are ready to set the alarm for the early hours of October 2, which is a day later this year because of an intervening Sunday. Duck hunting is one of the most enjoyable of the many experiences available to the hunter and yet it is perhaps the most exacting. It begins usually in the early hours of the morning when the first rays of daylight are just beginning to dissipate the gloom of night, and if it is a stormy day so much the better, for the flights will then be active in seeking shelter. At this hour of the morning the air is cool and crisp, with the probable addition of a biting wind and it requires a great deal of enthusiasm on the part of the hunter to carry on in patience while waiting for a flight. In no other form of hunting common to the Province is it necessary to resort to such forms of mild deceit and camouflage as in duck hunting. The prey is so elusive and well equipped to protect itself that to get within striking distance the hunter must resort to decoys, and "blinds" in addition to the art of completely effacing himself until the opportune moment. Of course, where natural conditions are more propitious, such elaborate preparations are not necessary.

Few hunters have more than a passing acquaintance with the various species of North American ducks with the exception of one or two of the most common. This fact is not to be wondered at because, according to a bulletin by the United States Department of Agriculture the North American species numbers 77. Not all of these are to be found in Ontario but there is a wide variety, some of which are quite common, others not at all plentiful. The list of game ducks includes the Mallard, Black duck, Gadwall or Grey duck, Pintail, Widgeon-Baldpate, Shoveller, Blue-winged Teal, Green-winged Teal, Wood duck, Bluebill, Lesser Scaup, Canvas-back, Redhead, Golden-eye-Whistler, Bufflehead, Long-tailed duck, Old Squaw, Black Scoter, Velvet Scoter, Ruddy duck and Eider duck. Of these only the Wood duck is wholly protected. The latter is perhaps the most graceful and beautiful of all the ducks and this perhaps accounts in some measure for its scarcity.

In order to more readily distinguish the species by their characteristics the ducks are generally divided into two classes, namely, Shoal-water ducks



Mallard

Shoal-water Ducks

Grey



Canvas-back

Diving Ducks

Redhead

and Diving ducks. In the former classification are the Mallards, Blacks, Greys, Baldpate, Pintail, Teal, Shoveller, etc.; in the latter are the Redhead, Canvas-back, greater and lesser Scaup, Whistler and Ruddy duck. The shallow water or marsh ducks feed as a rule on surface material or by tipping and immersing not more than the fore part of their bodies while searching for food. The diving ducks are most commonly observed in open and broad expanses of water and feed completely submerged, diving in search of food to a very considerable depth at times. There are also certain external characteristics which distinguish these two classes of ducks. The diving ducks have an enlarged flaplike membrane at the lower part of the hind toe, also larger toes with broader webs and shorter legs than the non-diving, and the legs are placed further back on the body. These adaptations provide for greater facility of movement in the water, but have the effect of retarding the take-off therefrom. While the diving ducks rise from the water with more difficulty than the others their speed in the air is just as swift.

Duck hunters are familiar with the fact that during the past few years the regulations have been tightened and the seasons and bag limits reduced. This is in keeping with the regulations which prevail in the United States of America and were introduced because of a substantial decrease in the wild fowl population. These protective measures have served to arrest further decline and according to the latest census the annual flights are slowly getting back to normal again. It is well to remember, however, that ducks, even though we find their numbers reasonably large in the Province of Ontario, have been and still are subject to all the adverse conditions which have affected many other species of wild life, causing depletion and in some cases, extinction. Present numbers are relatively small compared with primitive abundance such as is depicted in the following descriptive extract from "Game Birds, Wild-fowl and Shore Birds", by E. H. Forbush. "Dense masses of Scaup winnowed their way low over the land. Vast flocks of Teal swept close by, with a roar of rushing pinions as they swayed and turned in quest of feeding grounds. Lines of Mallards extended across the dome of the sky, flock after flock, in almost continuous array. Swift flights of Canvas-backs kept their unwavering course. Masses of Red-heads kept them company while smaller flocks discharged their members like zigzag bolts to the wave below. Here and there Teal and Widgeons rode down the air with stiffening wing, concentering upon lake or river, where many a weary flock sought rest, until the water was black with floating birds and still unwearied myriads high in air sped southward." Vast flocks, such as are pictured here, are no longer in evidence, but there is still considerable thrill in witnessing the spring and fall migratory flights, and if the sportsman will do his bit by strictly observing the regulations which are quite generous, and co-operate to maintain suitable breeding grounds, the present flocks should be sufficient to meet all legal demands.

Record Spawning Bass

Biologists and sportsmen have known for years that the temperature of the water and the amount of available food have much to do with the growth of bass and the determination of the spawning period. In very cold water growth is slower and the seasonal spawning later than in waters where the temperature is not quite so frigid. It has been learned, for example, that in the waters of Ontario the development of a legal size ten-inch bass takes from four to five years or longer, depending on environmental conditions such as have been mentioned. In the Eighth Annual Report of The Cape Piscatorial Society with offices in Cape Town, S.A., there is some further interesting information on this particular subject.

It seems that during October, 1937, the Society imported a shipment of small-mouth black bass fingerlings from the State of Maryland, U.S.A. Referring to the early breeding success which followed from this shipment the report states: "The first breeding in South Africa occurred at Jonkershoek during September-October, 1938, when the imported small-mouth bass were only 17 months old and 8 inches to 10 inches long. There were only a few breeding fish and egg production was comparatively small. When the fry reached the swimming stage, as many as possible were transferred from the breeding pond into protected trout rearing tanks and fed on cultured Daphnia Magna and other live foods. The object was to rear a number to small fingerling size suitable for distribution to distant parts of the country. Other young small-mouth were allowed to grow out more rapidly in open rearing ponds, for local distribution and as additions to the hatchery stock." Then follows a list showing that fingerlings from this initial hatch to the number of 763 were distributed in areas extending from Cape Town to Johannesburg and in quantities ranging from 8 to 206. For example, this record is quite interesting. "Swaziland—January 10th, 1939, by Airways from Cape Town to Johannesburg and thence by road to Mbabane same day, all arriving safely after record day's journey for S. Africa—25" (Fingerlings). Breeding bass at 17 months old must have some niche in the hall of fame judged by prevailing conditions in Ontario.

Along similar lines is another interesting report on the introduction of bluegills from the same source. Here is the story which speaks for itself.

"The circular issued on November 25th, 1938, reported that the 32 bluegills from the second importation of October 24th, 1938, which were taken to Jonkershoek Hatchery, were very small fingerlings, $1\frac{1}{4}$ to $1\frac{1}{2}$ inches long, hatched during May, 1938, in Maryland, U.S.A., and that they were still in a small quarantine furrow recovering from the ordeal of the voyage. At that time the prospects of any early results from this importation seemed to be remote, but since then almost miraculous events have occurred and the bluegill is now thoroughly 'on the map' in South Africa."

"In November, 1938, the 32 bluegills were a sorry looking lot, with

fins and tails eroded to stumps and swimming by awkward movements, but they regained condition and regenerated the worn fin rays very quickly, and none were lost. They were kept in the small furrow for over two months after landing, as they were only a few months old and were not expected to breed for a year or more. By the end of 1938 they looked very fit and averaged about $2\frac{1}{2}$ inches long; so they were turned out into one of the breeding ponds to grow. This pond contained no other fish and was very rich in small aquatic life. The bluegills were put in on December 29th, 1938, and in only three weeks' time many of them had grown to 4 inches long and became deep in body and brightly coloured. On January 24th, 1939, a four-inch male bluegill was found to be guarding a nest of eggs. This was at the hottest time of the summer and the water temperature reached 80 deg. F. in the shallows of the pond. The eggs hatched on January 27th and by February 3rd the fry were swimming and feeding. Several other males made later nests in which more than one female spawned and great shoals of fry resulted. By the end of March, 1939, many of the young South African bred bluegills were $1\frac{1}{2}$ to 2 inches long, which was bigger than their parents had been when they arrived from Maryland in October, 1938. The breeding of the smallmouth bass at 17 months old was something of a record, but the precocity and fecundity of these seven-months-old bluegills is something even more remarkable."

At the request of Dr. Carl L. Hubbs, University of Michigan, Ann Arbor, a sample of the young bluegill fingerlings bred in South Africa in January, 1939, was forwarded to him for examination. Says the report: "On May 10, 1939, Dr. Hubbs wrote that the preserved specimens from Jonkershoek had characters proving them to be the full-blooded bluegill, *Lepomis macrochirus*. He considered that maturing at the age of 7 to 8 months is very likely a record, but, of course, can be explained by the missing of a winter."

Migratory Birds a Federal Care

The experienced sportsman is more or less familiar with the fact that regulations for the protection of Migratory game birds as well as Migratory non-game birds are provided by the Federal Government in Ottawa and not by the Department of Game and Fisheries, and in these days of political discussions over Provincial rights sportsmen sometimes ask, in the language of the street, "how come"? The following information will doubtless be of interest to hunters and help make the situation clear. From the preamble of a proclamation issued by the President of the United States we quote the following:

"Whereas, a convention between the United States of America and the United Kingdom of Great Britain and Ireland for the protection of migratory birds in the United States and Canada was concluded and signed by their respective plenipotentiaries at Washington on the 16th day of August 1916, the original of which convention is word for word as follows:

Whereas, many species of birds in the course of their annual migrations traverse certain parts of the United States and the Dominion of Canada; and

Whereas, many of these species are of great value as a source of food or in destroying insects which are injurious to forests and forage plants on the public domain, as well as to agricultural crops, in both the United States and Canada, but are nevertheless in danger of extermination through lack of adequate protection during the nesting season or while on their way to and from their breeding grounds;

The United States of America and His Majesty the King of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, being desirous of saving from indiscriminate slaughter and of insuring the preservation of such migratory birds as are either useful to man or harmless, have resolved to adopt some uniform system of protection which shall effectively accomplish such objects and to the end of concluding a convention for this purpose have appointed as their respective plenipotentiaries:

The President of the United States of America, Robert Lansing, Secretary of State of the United States; and

His Britannic Majesty, the Right Hon. Sir Cecil Arthur Spring Rice, G.C.V.O., K.C.M.G., etc., His Majesty's ambassador extraordinary and plenipotentiary at Washington:

Who, after having communicated to each other their respective full powers, which were found to be in due and proper form, have agreed to and adopted the following articles: . . .”

There are nine articles in the agreement concluded between the two powers setting forth the birds to be included and the means to be taken for their protection.

At the outset, the right of the Federal Government of the United States to regulate the taking of migratory birds was challenged by many states of the Union on the ground that such regulation was vested in the individual states. The matter was carried to the United States Supreme Court and this court upheld the constitutionality of the Migratory Bird Treaty Act which provided the necessary regulations for carrying out the terms of the convention. The law, in the matter, was exhaustively discussed by the court in its findings, and is of very great interest as shown by the following extract:

“The State, as we have intimated, finds its claim of exclusive authority upon an assertion of title to migratory birds, an assertion that is embodied in statute. No doubt, it is true, that as between a State and its inhabitants, the State may regulate the killing and sale of such birds, but it does not follow that its authority is exclusive of paramount powers. To put the claim of

the State upon title is to lean upon a slender reed. Wild birds are not in the possession of anyone; and possession is the beginning of ownership. The whole foundation of the State's rights is the presence within their jurisdiction of birds that yesterday had not arrived, tomorrow may be in another State and in a week a thousand miles away. If we are to be accurate, we cannot put the case of the State upon higher ground than that the treaty deals with creatures that for the moment are within the state boundaries, that it must be carried out by officers of the United States within the same territory, and that but for the treaty the State would be free to regulate this subject itself.

"As most of the laws of the United States are carried out within the States, and as many of them deal with matters which in the silence of such laws the State might regulate, such general grounds are not enough to support Missouri's claim. Valid treaties, of course, are as binding within the territorial limits of the States as they are elsewhere throughout the dominion of the United States!

"Here a national interest of very nearly the first magnitude is involved. It can be protected only by national action in concert with that of another power. The subject matter is only transitorily within the State and has no permanent habitat therein. But for the treaty and the statute there soon might be no birds for any powers to deal with. We see nothing in the Constitution that compels the Government to sit by while a food supply is cut off and the protectors of our forests and our crops are destroyed. It is not sufficient to rely upon the States. The reliance is vain, and were it otherwise, the question is whether the United States is forbidden to act. We are of opinion that the treaty and statute must be upheld."

In Canada, the validity of the treaty was also questioned, in the case of *The King vs. Russell C. Clark*, in which the Supreme Court of Prince Edward Island upheld the power of the Federal Government to conclude the treaty and provide an enforcement Act to carry it out. Thus, we have "The Migratory Birds Convention Act and Federal Regulations for The Protection of Migratory Birds".

A Menace to Wildfowl

The Migratory Birds Convention Act to which Canada, the United States and Mexico are signatories, stresses the fact that the wildlife to which it applies is a common heritage, unrestricted by boundaries and of a transitory nature. A large proportion of the ducks and geese have their breeding grounds in Canada but in the fall fly south to spend the winter in the warmer climes of the southern States. In the spring the route of travel is reversed, and the birds return again to the nesting areas in the north. Because of these migratory tendencies, none of the countries concerned is in a position to exercise complete control for, as the appeal court

so aptly puts it, they are "birds that yesterday had not arrived, to-morrow may be in another State, and in a week a thousand miles away". There is, therefore, need for co-operation and concerted action if proper protection and wise use is to be made of these resources.

A few years ago it became evident that the duck population was being seriously depleted and many reasons were advanced in explanation such as, the draining of swamp areas, drought and the heavy toll taken by hunters. To remedy the latter phase, hunting privileges were greatly restricted and bag limits reduced, both in the United States and Canada. These protective regulations were accepted with good grace by all decent sportsmen, for it was recognized that the future of the sport was in jeopardy. However, there have been persistent rumours among sportsmen that a heavy and unlawful toll of the birds takes place during their flight and sojourn in the south. These stories apparently have some foundation, in fact, if we are to judge by an article in the current issue of Collier's Weekly. It is an amazing and alarming exposé of the depredations of "bootleggers and racketeers" in ducks and other migratory game birds. The operations of these outlaws are painfully reminiscent of the days of prohibition and the gun-toting methods which then prevailed. As the article appears to be of a semi-official character—it details the experiences of game wardens and federal agents and is illustrated by official photographs—we feel that it deserves publicity if only to arouse the sportsmen to the danger from this unbridled destruction, and shame the smug self-complacency of those who encourage the nefarious business by creating a demand for the commodity.

The article begins by describing the experience of an under-cover federal agent who had won the confidence of one of these poachers and went with him on a visit to a duck trap. In the trap were some 122 pintails, blacks and mallards, all struggling excitedly to break out of their prison. They were quickly despatched by the operator by the simple process of twisting their necks. In due course the man was haled into court, confronted by the under-cover man and sent to gaol for two months.

Says the writer of the article: "Killing wild fowl for the commercial market has become a million-dollar racket that wipes out a million wild birds a year. Not alone duck but also geese, quail, woodcock, rail, swans, doves, even blackbirds and robins are slaughtered by the tens of thousands for commercial purposes. One Louisiana gang killed 850 ducks in 11 days. Biological Survey agents nabbed one interstate shipment of 7,000 dressed blackbirds. An undercover man working four months in Tennessee, Mississippi and Arkansas bought 2,200 quail, 600 ducks and geese and a few score other birds as evidence—then estimated he had purchased only 10 per cent. of the quail and 2 per cent. of the duck marketed each season in the area".

"In a similar clean up on the Eastern Shore 500 duck traps were

destroyed. At the most modest rate, the traps would get more than 5,000 ducks a week, and 80,000 in the migrating season from October to March. Tremendous quantities of bootleg birds have been marketed in San Francisco and Los Angeles, in the Great Lakes region of Chicago, Detroit and Toledo, in New York and around the Gulf of Mexico."

The extent of the racket is described in a report by a special game agent. "The Agent's findings", to quote once more, "shocked even Survey officials who thought they knew the scope and seriousness of market hunting. He found the hunters loosely organized into gangs, sometimes bossed by middlemen who had contacts, valuable both in selling the birds and shielding the hunters from the law. He learned they were dangerous men, always armed, and that their hangouts in filling stations, cheap beaneries and saloons were dives worthy of the prohibition period.

He had guns jammed in his ribs, he narrowly missed a murderous ambush, he was threatened with immediate death if he talked. The villainous crews bragged to him of their police and political protection; a deputy marshal stood guard while he dickered over a purchase; and in a weird midnight meeting a member of the Mississippi State Legislature offered to sell him birds. He found market hunters operating on one federal game refuge and was told that politicians and government officials were among the racket's best customers.

Thirty-four hunters were convicted in federal court and twenty-four in state courts, with fines running up to several hundred dollars and jail sentences of several months. Yet the agent was positive he had barely scraped the top of the racket.

In the Eastern Shore of Maryland and Virginia fifty-five duck bootleggers, buyers and trappers were convicted, partially closing off a flow of thousands of birds a year into Philadelphia, Baltimore, New York City, Washington and Norfolk."

And if your cup of amazement is not yet overflowing read this: "Middlemen sometimes set up highly efficient plants. One Eastern Shore operator had a staff of twenty duck trappers bringing him birds, for which he paid forty to sixty cents a brace. Another twenty employees worked at a long table in an old warehouse, picking and dressing the birds. Ten thousand ducks a year passed through the plant to some of the most exclusive hot spots and private clubs in New York City and Washington. The clubs got regular weekly shipments, paying from \$2 to \$5 a pair for the fowl."

Although the situation disclosed in this magazine article primarily concerns the United States, it has repercussions which extend to Canada. The ducks which are so ruthlessly slaughtered represent the dissipation of a common heritage. For several years more stringent regulations have been placed on the sportsmen and in these he has readily acquiesced. It is something of a shock, therefore, to learn that these protective measures are being nullified by commercialism and racketeering. On the other hand

it is quite obvious that the United States Federal Government is strenuously and successfully rooting out these wildfowl plunderers, for the list of prosecutions grows daily. "As rapidly as possible", says the story, "the Biological Survey is attempting to strike at the big city buyers of wild fowl and at the ultimate consumer who actually eats the birds". The Survey has a long list of suspected eating houses which includes "some of the country's most famous and most expensive establishments". The proprietor of one such resort was convicted of serving wild duck and other game birds and sentenced to thirteen months in prison while twenty-three of his clients were fined an average of \$57 each for eating the birds.

As a final quotation we note that, "Remarkable progress has been made by the federal waterfowl refuge program in this country, and by similar work by Ducks Unlimited, Inc., on Canadian breeding grounds. But duck bootlegging has chiseled more and more into increasing duck crops".

While we appreciate the work which is being done by the Federal Government and other organizations in the United States, nevertheless, it is alarming to the sportsmen of this Province that such a situation exists.

If You Get Lost in the Bush

There are two fevers with more or less similar symptoms which the inexperienced hunter is liable to contract in the bush on a deer hunting expedition. One is known as "buck fever", the other might be termed "bush fever". The first is that state of nerves which develops when for the first time the newcomer to the hunting camp finds himself suddenly confronted with the opportunity to bag his first deer. For days he may have been praying for just such a chance, but more often than not when his prey ultimately leaps into view or flashes past, he will develop a dose of the jitters and probably stand transfixed, too nervous from excitement, to even sight his rifle. It is a common experience where greenhorns are concerned, but the first attack is usually the last and it is not serious.

Bush fever has also to do with the nerves, and is occasioned by the knowledge, suddenly realized, that the victim is lost. A good bushman seldom finds himself in this position and an experienced hunter will know the right thing to do in the circumstances, but too often the man confronted with such a situation is smitten with a fear complex and loses his head. Immediately, he envisions a swift-moving panorama of helplessness, thirst, hunger and probable death. Instead of sitting down calmly to figure out his predicament he feels the urge to keep going, even if his tramping but leads him in circles or further from his desired haven. The fact that he is alone and surrounded by unfamiliar signs is the first shock the man receives, and if this realization develops into panic, then he is lost. This loss of mental control may have more serious effects than that occasioned by hunger or the lack of physical comforts.

This particular kind of fever may be warded off, often without harmful results, by the simple expedient of sitting down quietly and having a smoke, immediately it becomes apparent to the hunter that he has lost his bearings. Calm thinking at the outset will save a lot of unnecessary tramping and maybe hardship. Suppose you find yourself in this predicament there are certain fundamentals which you should remember. In the first place it is assumed that you have a compass,—if not, you should not be hunting in strange bush country,—and will know the geographical location of your camp. The compass direction can usually be depended upon and should be followed if you decide to attempt to return. Unfortunately, the direction will probably only be a general one and for a time may continue to lead you through strange territory, which will have a tendency to increase your fears. If you feel a lack of confidence in your ability to maintain a compass direction and must keep moving, find a stream and follow its course. It will eventually lead to a settled area, and water is more important for a time than food. On the other hand it may lead you into rougher country than you now find yourself in, which would merely add to your difficulties.

If night is drawing on, and, after calm deliberation you have come to the conclusion that you really are lost, stop where you are and locate a suitable place to pass the night. Gather a supply of fuel while you can still see and prepare a place for a fire by clearing a piece of ground, so that there will be no chance of burning up either yourself or the forest. Spruce and balsam boughs will make an excellent bed and are usually readily available.

Next day carefully explore your surroundings with a view to locating some familiar feature which might be a clue to your position. Avoid wandering aimlessly however, in order to conserve your strength, and if you find it impossible to remain calm, at least be wise enough to remain in one place. Sooner or later someone will be searching for you, and their task will be much easier if you "stay put", so to speak. The smoke from your fire will be an excellent guide for searchers but you cannot give co-operation unless you remain in its vicinity.

All these suggestions however, are elementary, and will be perfectly obvious if you keep your head. A man who thinks and plans before he acts is not without resource.



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DEPARTMENT OF

GAME AND FISHERIES

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HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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A Happy New Year

THE wall calendar which for twelve months has faithfully kept us informed as to day and date now bears a lone leaf; a silent reminder that the present year is ebbing to its close, and that just over the horizon of 1939 the dawn of a new period is about to break. We approach the end of the year with mixed feelings, for our joys are tempered with sorrow and our hearts heavy with the thought of tragedy yet to come. During the year the grim spectre of war, whose ugly form cast a dark shadow over the beginning of the period, became a reality, and the peaceful pursuits of our normal lives have once more been diverted, in large measure, to war purposes. Uppermost in our minds, therefore, as we close the year, is the picture of a war-torn world in which sorrow and suffering predominate; yet even this dreary picture is brightened somewhat by the heroism and self-sacrifice of those who bravely strive to maintain their right to live in accordance with their national traditions.

Naturally these tragic conditions with which we are faced at this time of retrospect rather obscure our pleasant memories of days of unalloyed joy in the great open spaces where the air is pure and the environment speaks peace. Nevertheless, these memories of lake and stream, forest and field, are real and will linger with us despite the stark realities of "man's inhumanity to man". The passing of the year, however, but ushers in a new period of time full of unexplored possibilities, and so we pray that the unknown future represented by a new calendar year may bring us that victorious Peace which alone will restore a measure of happiness to suffering humanity.

Let us not forget, however, that Canada, too, is at war, and in such an emergency all the resources of the country must be employed to ensure that the Empire and all it stands for "shall not perish from the earth". More than ever before the conservation of our natural resources is of paramount importance, and wilful waste becomes a serious menace. The sportsman knows the economic value of our wild life heritage, and is familiar with the part that wealth plays in the prosecution of a war, therefore he has a definite and personal responsibility to see that these resources shall not be dissipated through illegal means.

And so, as the old year fades, leaving us with pleasant memories but troubled minds, we still offer the traditional greeting. May the wish of our hearts be consolidated in A HAPPY NEW YEAR.

Three Important Words

The history of mankind throughout the ages is divided into two distinct and recurring phases, namely, periods of peace and war. In our present civilization, peace signifies an era of social development, scientific progress, economic adjustments and national consciousness. During a period of war, on the other hand, human life and property are ruthlessly destroyed and the prosperity built up during the peace regime is turned energetically to purposes of destruction. Since the age of primitive man history records a more or less continuous struggle either by reason of conquest or self-preservation. Man was given "dominion over the creatures", and not being under any necessity for expending his energies in that direction, has consistently and progressively organized every resource within his power to the task of dominating his fellow man. Human destiny and national existence have always been subjected to the unpredictable results of war, and peace has rarely been more than a rest period between the struggles.

With this in mind we suggest that two of the most important words in the English language today are those which designate these varying periods of human existence, namely "Peace" and "War", for in the one is wrapped up all the virtues which are conducive to happiness, while the other signifies in three letters all that is most despicable in the code of human relationships. To these two words we venture to add a third, because it is closely allied with the one and an antonym of the other, and is of vital importance during either period. The word is "Conservation".

The poet says that "peace has its sorrows no less than war", or words to that effect, and it is true. The national tribulations of peace time, however, are generally problems of social, economic or political import and may be solved, for the most part, by internal adjustments. The happiness and prosperity of any nation during this period are dependent upon the natural resources of the country and the economic progress which develops therefrom. Material prosperity, therefore, being dependent upon natural resources, it is evident that the wise use and proper development of these valuable assets is of paramount importance.

"The conservation of our natural resources," says President Roosevelt, "and their proper use, constitute the fundamental problem which underlies almost every other problem of our national life." In time of war the importance of that statement brooks no contradiction. Natural resources are not only the basis of a nation's wealth, but are, in addition, the life blood which enables it to carry on in times of emergency.

The wildlife resources of this country are a vital part of our national assets, because they contribute largely to our wealth, are capable of providing for our material comforts and play an important part in the physical development of our people.

These preliminary remarks are the result of an association of ideas arising out of the fact that this country is at war, and the thought that conservation is an antidote for destruction, just as peace is an antonym of war, and in theory the general principles are the same. The wildlife resources of the Province are continually being destroyed illegally by irresponsible people.

Laws, to them, are like treaties to certain nationalities, mere "scraps of paper" to be ignored or observed as best suits their purpose. The Game and Fisheries Laws provide for a liberal use of the available resources of fish and game and, in conjunction with the conservation measures in force to assure permanency of supply, are essential to a proper administration of a public heritage. When these resources are harried, sniped at, and destroyed unlawfully, the cumulative effect is liable to be serious. It was because of this lack of consideration for the rights of others and the deplorable results which followed the almost unrestricted taking which prevailed half a century ago, and later, that the economic value of wildlife became appreciated and protective restrictions were imposed.

Since those days there has been a more or less incessant struggle on the home front between the forces which wantonly or wittingly break the law and those who recognize the value of conservation as a means of perpetuation. In the latter category there is an efficient company of permanent fighters always in the field mopping up the snipers whose guerilla tactics are so destructive of wildlife and irritating to those who see the need for the proper care of these resources. News from this front seldom reaches the headlines, nevertheless the troops are in action all the time and many prisoners are taken yearly. Last year, for example, the records show that some 1,506 persons were convicted of breaches of the law after having been gathered in by the field forces. In addition to the ransom money exacted by way of penalty a great deal of booty was confiscated, and publicly sold for the benefit of the treasury. The total income from these sources was close to \$47,000.

Backing up the efforts of the permanent field force is a battalion of voluntary troops designated Deputy Game Wardens, and equipped to halt abuses and enforce the regulations. In addition to these active forces there is an army of organized sportsmen seeking through education and moral suasion to show the law-breaker that in the ethics of sportsmanship there is no place for selfishness, and that illegal practices are an infringement on the rights of others.

This little campaign on the home front, the back concessions and the waterways of the Province, is going on incessantly, without fanfare or undue publicity, but with very gratifying results.

As an example of the patience and eternal vigilance of the protective officers whose duties keep them perpetually on the firing line—metaphorically speaking—we mention a routine report received today from Overseer Muma. It seems that back in December 1935 a certain misguided gentleman with a city address was convicted on a charge of killing a pheasant out of season, and fined \$10 and \$10.50 costs. The magistrate allowed him about two weeks to raise the penalty. Taking advantage of his temporary release the man disappeared, and despite many enquiries continued to evade the law. Recently he found it necessary to re-visit the district, smug in the belief that time had obliterated any chance of detection. The Overseer happened to be in town that day, however, and noticed him getting into a car. Instantly the unpaid penalty flashed through his mind, and he once

more placed the man under arrest and conveyed him to gaol under a warrant of commitment, which had been issued almost four years previously. Subsequently the penalty and costs were paid and release obtained. All of which merely emphasizes the fact that game law infractions are just as serious in the eyes of the law as are offences against property or persons. We congratulate the officer on his vigilance.

"Finally," as our old Presbyterian minister used to say when he neared the end of his voluble discourse, we suggest to the sportsman that he must be prepared to accept a share of the responsibility for the protection of his sport. In war, guerilla tactics are capable of harassing an enemy and causing considerable damage; the same tactics carried on against wildlife can seriously interfere with the proper development of the resources. Let us all enlist in the Sportsmen's Legion of Good Conservationists.

Killing a Canard

Propaganda, as we have come to understand it, is a means of taking advantage of human weakness for the purpose of disseminating information, however untrue or unreliable, for one's own advantage or the disadvantage of an enemy. The human weakness by which it flourishes is that tendency to take for granted without investigation whatever is published, or repeated to us, and of passing it on uncensored and completely unabridged. It flourishes on gossip and needs only a confidential whisper to set it going. The sphere of its influence is analogous to the radiation of radio waves. Beginning at a central point, the broadcasting station, the electrical vibrations spread in ever-widening circles to reach into all parts of the world where there is a receptive listening ear. So it is with propaganda; a whisper, a suggestion, a half truth, or a complete fabrication, properly started on its mission of deceit, will expand and grow until it completely fools many of those tuned to its wave length or within its sphere of influence. That popular but bombastic radio star, Andrew H. Brown, in his capacity of chief propagandist for both sides in the war for control of the "Mystic Knights of the Sea", has had great difficulty in explaining to his partner Amos what "this here propaganda" really is, and how to distinguish it, but experienced no trouble at all in demonstrating how to go about it, and its baneful effects. He merely told his stenographer, in confidence, a malicious story, and she did the rest.

According to press reports, some persons of ill-will have been attempting to disrupt our tourist business with the United States. Taking advantage of the fact that during the hunting season there is always an influx of visitors, the story was circulated that war conditions were such that tourists would have their cars and guns confiscated and a tax levied on their money, all of which implied that Canada was a good place to stay out of. It is stated that this underhand campaign has not been without effect and there has been a lessening in the number of visitors. Non-resident hunting license figures are not complete, but the totals to date do show a slight decrease over last year. Whether or not this is due to the dissemination of false information we can only conjecture.

The Department of Game and Fisheries is anxious to make it clear to our American friends that the laws of the country have not changed so far as tourists are concerned, that the welcome sign still hangs at our ports of entry and applies to all but enemy aliens; that instead of taxing American money there is a premium on same, which means quite a saving during a prolonged stay; and that despite war conditions our food supplies are unimpaired. In so far as hunting and fishing are concerned there has been no let-up in our plans for maintaining and developing our resources. Hatcheries are still working at capacity, and our game conservation measures are such that wild life of all kinds is becoming increasingly plentiful.

Ontario's facilities for hunting and fishing are unsurpassed, and the regulations which apply provide a minimum of restriction and a maximum of sporting possibilities. These facts are well known to the thousands of visitors who annually sojourn among us and need no elaboration. However, in view of the campaign of mis-statements, which has evidently been started to injure our social and economic relationship, it seems necessary to emphasize the fact that our hospitality is still unimpaired and our forests and waterways have lost none of their attractiveness. In short, visitors are assured of the same courteous treatment as heretofore, and the war angle will but add to the thrill of the visit.

Developing Initiative and Resource

The rifle brigade composed of those "hardy annuals" who yearly penetrate the northern woods in organized and unorganized units in search of deer and other forms of wild life has now returned from its annual manœuvres and reports a satisfactory period of recreational camping. In effect, that statement savors of the language of a military communiqué, which is not to be wondered at during these strenuous times, and yet the organization and discipline of the hunting camp approaches that of the military in many respects. Each camp has a captain whose word is law, and who, if he is wisely chosen, will see that his members are properly instructed in camp duties, conversant with the game regulations, qualified in the use of firearms and conscious of the fact that the safety of each individual and the harmony of the camp depends upon the close co-operation of every member. The captain also plans the day's operations, usually after consulting the wishes of the others, and decides as to the disposition of the hunters on runway or otherwise, and any deviation from his instructions may lead to confusion or worse. These disciplinary measures, for that is really what they are, are quite unobtrusive, and the hunter who does not accept them with good grace has no place in a hunting camp.

Hunting camp conditions vary in direct ratio with the amount of organization and direction they receive, and the complete success or otherwise of the outing may often be attributed to the detail of leadership. The well-directed camp lacks nothing in good fellowship, yet every man plays a part in contributing to its success. If there is a shirker in the group he can easily upset the general good humour of the remainder of the party, and if there is an individual whose sense of personal responsibility has not been properly

aroused, he can readily spread a pall of gloom over the whole atmosphere of the camp. There are few hunting accidents in camps where experience dictates and the ethics of sportsmanship predominate.

The soldier in training is taught the intricacies of his equipment, as well as details of what to do and how to behave under actual war conditions. As the tide of battle seethes back and forward, however, it is the discipline and self-reliance of the soldier which spells success. The fighting air squadron may approach the enemy in proper battle formation and strike its first blow according to a pre-determined plan, but when the "dog fight" starts and the formation breaks, it is the initiative and resource of the individual pilot which counts.

The reporter for a Toronto evening newspaper interviewed the Officer Commanding our largest air base recently, and we quote verbatim a brief extract from the resultant article:

"What makes a pilot? What is the essential qualification a man must have?" asked this reporter.

"I'd say he should be good at sports, he should like fishing, hunting, that sort of thing."

"Why?"

"Initiative is what I mean. He should have initiative and these things develop it. He must think fast, must be able to make a quick decision."

This officer, himself an ace pilot of the last war, is apparently an outdoorsman conversant with the fact that hunting and fishing are sports which depend for success on the initiative, resource and quick thinking of the participant. The hunter must stalk his prey and use all his wiles to overcome the natural defence and cunning of the game he is pursuing. He must be quick to take advantage of every opportunity. He must be resourceful in finding his way about, locating his game and using the combat methods best adapted to the immediate situation. And when his prey wings into view, or flashes past, he must be quick to decide whether or not it is legitimate game and whether or not the situation presents any danger to others. In short, the discipline of the camp, the regulations which control the sport, the ethics which prevail among sportsmen, and the actual participation in the hunt are all conducive to mental alertness, initiative and resource, and the man so endowed is well equipped to succeed either in the field of battle or the battle of life.

The sportsman will readily see the same mental and physical attributes in the sport of fishing. Here, again, initiative and resource are essential to success, and the pleasure to be derived is dependent largely upon self-discipline.

Perhaps there is a deep connection between our love for these outdoor sports and the fact that Canada's Airmen and fighting forces generally were outstanding in the last war and promise to be equally effective in the present struggle.

The Deer Season

Hunters returning from the north report a very satisfactory deer season. Not all of them brought back deer—that is to be expected—but most of them will readily admit that conditions are good and the outing well worth while. The consensus of opinion appears to be that deer were quite plentiful, increasing numbers of does and fawns being observed. This is a natural result of the present regulations which afford a large measure of protection to does and their young. In addition to the protective measures in force the past few winters have been reasonably mild, and this has been a factor of importance in maintaining and developing the herd.

We have made extensive enquiries among hunters and the Overseers who checked the returning nimrods, and so, as a matter of record, we quote from the information received. Because of its convenient access the section south of the French and Mattawa Rivers is probably the most popular location. An Overseer in the south-eastern district reports that he "never before saw so many deer come out of the area", while a Toronto hunter, referring to the same district, used almost the same words, but added, "no trouble getting deer". Discussing the matter with the President of one of our Sportsmen's Associations, he made the statement that he had been hunting from the same camp for thirty years with very satisfactory results, and concluded—"there are twenty deer now for every one thirty years ago".

From the same district prior to the opening of the season came a letter to the Department in which the writer, from his personal observations during the year, confessed rather mournfully that he believed the deer were scarce. We met the gentleman after the close of the open season and he was quite enthusiastic. The deer, he admitted, were really very plentiful and, as proof, pointed out that his party of fifteen all got their limit.

It was our good fortune to attend a meeting of one of our largest Protective Associations the other evening, and we took the opportunity to ask a number of the hunters who annually trek north to their favourite camp in search of deer, how they found the situation. Without exception they agreed that there were plenty of deer, and all but one, an experienced hunter, had obtained his quota. He merely grinned and said he was out-lucked, which simply means that he missed his chance. One interesting story was to the effect that two inexperienced hunters were in one party, and while they did not get a deer, they returned highly elated because they had actually seen some twenty deer.

Another story from a different source concerned two young clerics who motored almost three hundred miles from Toronto with but a couple of days to spend in camp on their first deer hunt. The morning after their arrival one of the men was lucky enough to bag a fine buck. Next day the camp host placed the second man on a favourable runway and himself took the dog into the swamp. A few moments after releasing the dog he heard a shot, and upon investigating found the second man dancing with uncontrolled glee beside another good buck. Our informant, whose guests they were, told us he never saw two young men so completely thrilled, and as they left with a deer tied to each side of the car they laughingly proclaimed

that when they got back to the city they were going to park in front of the King Edward and bask in the sunshine of reflected glory!

One of the officers who checked on hunters returning from the Parry Sound District reports that more than half of the hunters had deer, while quite a number of bear and at least half a dozen wolves were included in the bags. When it is remembered that over thirty thousand hunters were in the field the result is quite satisfactory.

In the districts where deer are reported quite plentiful it is noted that wolves are also very numerous. It is rather an elementary fact in the realm of Nature that when one species of wildlife increases in numbers those predatory animals which prey upon it also increase. It is natural, therefore, to expect that as the deer herd grows the wolves will also become more troublesome.

Those who returned without deer will, of course, be disappointed, but we venture to suggest that there are few of the latter who had not an opportunity, however fleeting it may have been, to bag a prize. This was apparent from conversations with numerous hunters, so the bagless nimrod at least enjoyed the thrill of the chase, and seldom returned without a share of the camp spoils. On the whole, therefore, the deer season was a successful one, and the condition of the herd is such as to encourage the belief that future development is assured.

Fish Culture Methods

Behind the bald statement that during the year ending March 31st, 1939, the Department raised and released in the waters of the Province some 733,260,643 commercial and game fish, is a story of organization, co-operation and scientific achievement which is packed full of interest. Judged from the standpoint of numbers alone, the total represents a colossal effort. If you are mathematically inclined and could start your youthful son, aged ten years, at the hypothetical and useless task of counting the individual fish to see that the total was correct, and instructed him to work at the job eight hours per day until the task was completed, do you realize that he would be eligible for an old-age pension before he completed the task? Fortunately for the peace of mind of the hatchery managers, the totals are arrived at by measure, after having previously ascertained by actual count the capacity of the measures used. It is reasonably accurate and a very convenient method of arriving at the various totals.

The old gag about which came first, the chicken or the egg, is still unsolved, but there is no question about the fact that to produce hundreds of millions of fish one must first secure an equal number of eggs. This is the first problem which besets the fish culturist, and yet it is not as difficult as might be expected. For one thing every parent fish is good for several thousand eggs at one spawning, in fact the total reaches tens of thousands in some cases. The prolificness among fish and other wildlife species is Nature's plan for setting up a proper balance by making provision for the high mortality rate which is part of the scheme of things. Obviously, then, if the parent fish can be secured at the proper time and some method de-

vised for collecting and fertilizing the eggs, the first step is completed. Experiments readily disclosed that the process of stripping the fish was a simple one and that the eggs could be secured without harming the fish. When the fish are ripe for spawning the eggs are obtained by exerting a gentle pressure on the ventral surface, which causes them to flow freely, and they are then fertilized by contact with the sperm of a male fish obtained in the same manner.

In the case of commercial fish, the eggs are collected by the fishermen, or spawn takers employed by the Department, and placed on the fishing boats for the purpose. As the nets are brought aboard the live fish are secured and stripped of their eggs, which are then fertilized and shipped to the hatcheries in suitable containers. In the case of yellow pickerel most of the spawn is collected by officers of the Department, working with their own nets in suitable waters and releasing the fish alive as soon as the eggs have been obtained. The same procedure is carried out in connection with maskinonge culture.

At the various speckled trout hatcheries the Department keeps thousands of parent fish for propagation purposes, and secures the spawn from these fish by the method already explained. Adult fish of other species, such as brown and rainbow trout, are also maintained at the hatcheries.

The process of bass culture is somewhat different. For biological reasons it has been found undesirable to attempt to remove the spawn from bass, and culture is therefore confined to the natural method. The spawners are collected from natural grounds and taken to the hatchery ponds, where a suitable environment has been provided for them. The male fish then prepares a nest, to which he leads the female bass, who proceeds to deposit her eggs on the gravelly bottom. After this operation is completed she is driven off by the male bass, who assumes command of the nest and prospective family, and will viciously attack any other fish which ventures near the nest. In due course the young are born and the operator immediately shields them from the parent fish, and when they are able to swim removes them to another suitable pond well supplied with food and free from other predacious fish. The parent fish, having served their purpose, are then restored to the waters from which they were originally taken.

Most of the commercial fish are fall spawners, as are also the speckled trout and other species of the trout family. Pickerel and maskinonge spawn about the middle of April, while bass are a good six weeks later. It will be seen, therefore, that the hatcheries and rearing ponds are busy almost continuously; indeed, hatchery distribution is seldom completed before the spawn begins to arrive for further propagation.

Speckled trout, rainbow trout, and brown trout, are retained in rearing ponds until they have attained the yearling stage, while other species of game fish are divided between fry and fingerlings, as facilities for raising them are available. For example, lake trout planted in inland waters are of the fingerling size, while those for commercial purposes are an assortment of fry and fingerling. Experiments are being carried out with a view to raising the maskinonge to a much larger size than the fry stage, although

in the case of the maskinonge this has not previously been accomplished in quantities which would justify the expense involved.

The hatching and rearing having been successfully completed, the distribution from the hatcheries to suitable waters throughout the Province commences as soon as possible after the beginning of the year, and twelve trucks are continuously employed at the task until late in November. The plantings are supervised by experienced men who make it a point of seeing that water temperatures, as between that in the container and that in which the fish are to be released, are equalized, before planting.

The work of the Department is greatly facilitated through organized effort by sportsmen, both in the matter of making application for the stocking of suitable waters and in assisting in the transportation and planting of the actual fish. The angler who walks a couple of miles or so through bush country to fish a favourite stream seldom stops to consider that someone probably made the same trip lugging a heavy can of fish, a back-breaking job at any time, so that he might continue to enjoy good fishing. In these days of rapid transportation and intensive participation, good fishing is seldom a matter of accident, and is only assured by suitable conservation measures and the co-operation of the public in seeing that regulations are observed and waste eliminated.

Artificial Feeding of Fish

A quarter of a century ago it was our good fortune to live for several years in a small, isolated community. We recall vividly that butcher meat was home raised, and that when we first asked for liver the butcher gasped with astonishment at our request. "Why," he remarked, "nobody here eats liver and it is discarded with the other offal." We persuaded him to bring in the liver next time he killed a beast, and it was turned over to us at next to no cost. The story of our eccentricity spread, however, and it was not long before a demand was created and the price increased almost to the level of sirloin steak. We are reminded of this fact by the receipt of a copy of an address delivered by the Department Biologist, Mr. H. H. MacKay, before the American Fisheries Society, in San Francisco this summer. It deals largely with fish food and fish diseases, and in view of the present policy of rearing hatchery trout and other species to the yearling and adult stages we offer a few extracts and comments by way of showing the important part liver plays in the diet.

"Because beef liver was found to be a satisfactory food, conducive to the growth of young trout, it was, and still continues to be, widely used in trout hatcheries and rearing stations throughout the Continent. The price of this commodity has increased considerably during the past few years, resulting in a large increase in the cost of rearing trout. As a result of this, extensive and intensive experiments have been conducted to find a nutritional equivalent for beef liver, or even a partial substitute. At first, experimentation for the most part was of a laboratory nature, but more recently experiments have been conducted under actual hatchery conditions."

"The criteria of a successful diet are low cost, low mortality, and satisfactory growth. Now, nearly every rearing station may be considered to have its own set of conditions, and its own problems in regard to the factors involved, so that any particular study may apply directly to local conditions, and only indirectly to conditions elsewhere. Keeping these facts in mind the results of the survey may be summed up as follows:

(1) In the fry and early fingerling stages of trout, a diet of fresh meats is best. Up to this time the cost of food may be a relatively unimportant factor, but when the two-inch stage is reached a diet must be found that will produce large, healthy fish at low cost.

(2) Trout can be reared on a straight meat diet, but there is considerable difference of opinion as to which meat has given the best results. Probably no meat has given better results with young fingerlings than beef liver, and it would likely be used more extensively if it were not for the cost.

(3) Generally speaking, a mixed diet of meats is more satisfactory than one used alone. Ontario and Minnesota have experienced good results in feeding such a combination as liver, beef hearts and beef melts."

There follows a resumé of the feeding experiments conducted by various States for the purpose of finding substitutes for liver and thus reducing the cost of production. "Fresh meats plus cottonseed meal, fish meal, buckeye shiners, middlings, skim milk and salt have been used successfully."

An interesting statement is that the "California Division of Fish and Game fed a pond of approximately 3,000 yearling brook trout a commercial dog food for a period of six months. The dry meal was fed alone, but it is probable that the fish obtained some aquatic and terrestrial organisms. The dry food supposedly contained all the minerals and vitamins necessary for the health and growth of dogs. In five months the fish became seriously anaemic, and by the end of six months losses were so heavy that the diet had to be changed. In about two weeks on 100 per cent. beef liver diet mortality ceased."

Obviously, these were not dog fish!

The various experiments and the foods used are too numerous and varied to be quoted here. One thing which stands out, however, is the thought that the business of raising fish at reasonable cost is one that requires a great deal of study and experimentation. Anglers will realize the difficulties, financial and otherwise, involved in holding over and feeding millions of game fish, and that while great strides have been made within recent years food costs are an important factor in the development of the policy. Evidently fish culturists are cognizant of this fact, for the gamut of experimental fish foods in use throughout the continent is varied enough to offer some solution of "the high cost of liver".

The Regulated Townships

One consequence of the development of a country is that primitive Nature must give way to modern civilization. Once beautiful forests and extensive bush-lands must, of necessity, be replaced by cities, towns, vil-

laces and rural settlements. Basic industries require natural resources of forest, land and water, and an ever-increasing population must be fed, housed and clothed. To serve these social and economic developments requires extensive arteries of transportation by road, rail and water. In due course land which was once the public domain is transferred, by the process of purchase and sale, to private ownership, and forest areas are soon cleared for agricultural purposes. In short, as the country grows the whole face of Nature undergoes a change, and conditions must, of necessity, change with it.

At the moment we are thinking more particularly of the progressive changes which have taken place during the last half century affecting the sport of hunting within the Province. The old-timer recalls the fact that fifty years ago the regulations were wide open, and there were few restrictions on his movements in pursuit of game. There was a great deal of uncultivated land providing suitable game environment, and at the same time there were fewer hunters. As the business of farming became more extensive, however, cleared lands and clean farms greatly reduced the game habitat and wild life was driven further afield.

These changes have been most pronounced in the southern part of the Province, where large industrial centres have sprung up, resulting in a density of population, and the smaller towns and rural areas have spread out over much of the section. This general expansion is natural, for development is not possible without growth, and it is this situation which is so often forgotten by the sportsman when, as he frequently does, he bemoans the fact that hunting facilities are not what they used to be. The fact is that conditions have changed very radically, and the available land has been divided and sub-divided through private ownership which, while it has not affected his equity in wild life, have introduced property rights which must be respected.

The other day a rather irate gentleman called at the Department to enquire about certain hunting regulations, arising out of the fact that much of his favourite territory had been "placarded with signs", as he expressed it, prohibiting hunting, and he felt that such restrictions were totally unnecessary and just an additional curtailment of his liberties. Well, being a "Civil" servant we took pains to explain the situation, and pointed out that the regulations and restrictions were a natural result of present-day conditions, and that much of the posting of land could be blamed on hunters themselves. As the chief complaint of this hunter appeared to be in connection with the Regulated Townships it might be well to explain once more the reason for these protected areas and the regulations which apply.

Sportsmen will recall the first pheasant shoots in the Niagara Peninsula a few years ago. This was one of the few districts in which the birds had become reasonably well established, and in which it was found possible to proclaim brief open seasons. The limited territory available had the effect of congesting these areas with hunters during the open season, and resulted in many complaints, real and imaginary, not to speak of highly-coloured newspaper stories based on danger from, damage by, and deportment of the so-called "army of sportsmen" who flocked into the districts.

During succeeding years there was much adverse criticism, publicly and in the press, by farmers who objected to the attitude of certain hunters who over-ran their lands with a proprietary right which irritated them. These individuals, who fortunately are in the minority, were accused of needlessly damaging property and a lack of courtesy towards those who made their hunting possible. As a result, a great deal of land was posted against trespass, and the Department was flooded with requests to establish Game Preserves which would officially close the lands to hunters.

Certain areas were better hunting districts than others, and when these were close to large centres of population they became over-run by hunters, often to the annoyance of the rural residents who owned the land.

It was obvious that something had to be done to renew the good relations which had always existed between farmer and sportsman, so that the privileges incidental to the sport would not be jeopardized. A common heritage was involved, and the best interests of both require a spirit of co-operation and good will.

The setting aside of certain Townships as Regulated Areas had a two-fold purpose, viz:—to ensure a larger measure of co-operation between the farmer and the sportsman through establishing an additional amount of control and avoiding excessive hunting in any one area; and the development of upland game birds, principally pheasants, through intensive propagation and the added degree of protection which pertains in these areas. Co-operation is stimulated by the fact that hunting in these regulated townships is restricted, and control is exercised by the simple expedient of requiring the hunter to provide himself with a special township license. These latter are limited in numbers so far as non-residents of the township are concerned, so that the general influx of outsiders to any one district is checked.

It should be noted that these Regulated Townships have been set aside at the request of the Municipal authorities concerned, and that they have endorsed the regulations provided as tending to eliminate the friction which previously existed. The Township Councils, in view of the restrictions in force, are discouraging the posting of private lands as the success of the scheme depends upon the generous provision of hunting facilities during prescribed open seasons.

As some confusion still exists in the mind of the sportsmen as to the regulations which apply, let us briefly summarize these. In the first place, these regulated areas are closed to hunting except as prescribed by the Department. Provision has therefore been made to provide an open season for pheasants and the necessary special licenses are issued for this purpose. Intense propagation of pheasants has been carried on by the Department and hundreds of birds released in each Regulated Township, in order to assure the success of this open season. Hunters, however, must provide themselves with one of the special licenses for the township in which they desire to hunt, and must confine their pheasant shooting to the township for which the license has been purchased.

In addition to the pheasant hunting this special township license entitles

the holder to hunt rabbits between November 1st and February 28th in any Regulated Township within the same county as that for which he possesses a pheasant license.

It will be obvious that such a provision provides a measure of control against overcrowding, while at the same time it offers the sportsman extensive hunting facilities within a defined area.

Other forms of hunting in these Regulated Townships are at the discretion of the Controlling Organization. Groundhog shooting, for example, may be indulged in only with the written consent of the Controlling Organization, which is usually the township Council, and the possession of the groundhog license issued by the Department.

The controlling organization in each area may also authorize the shooting of woodcock during the open season for same, but the hunter must be in possession of the regular gun license issued by the Department and the written approval of the Controlling Organization.

There is only one exception to the restrictions. It provides that nothing in the regulations "shall in any way apply to prohibit the hunting of wild ducks and wild geese on any Regulated Game Preserve Area where such hunting is carried on in accordance with the provisions of the Migratory Birds Convention Act and Regulations and the Game and Fisheries Act; and except that this provision shall not apply in the Township of Scarborough, County of York". The Township of Scarborough is part of the York Sanctuary for Migratory Birds. The onus of proof that he was duck hunting would be on the hunter and the suitability of the area for such must be established.

The restrictions in these areas do not apply to the trapping of fur-bearing animals, provided such is carried on in accordance with the provisions of the Game and Fisheries Act, and no firearms are used for the purpose.

We hope it will be clear to the sportsman that regulations and restrictions such as are enumerated are the result of changed conditions which must continually be faced. The land is no longer virgin forest; the public domain continues to shrink; and private ownership has rights which must not be abused. Then, too, as the country develops the population increases, and the numbers of those interested in hunting grows apace. This combination of circumstances does not lend itself to that freedom of movement in pursuit of game which has been our privilege for generations past. Gradually, therefore, we have experienced a tightening up in the interest of the game as well as the hunter. In the case of the Regulated Townships a compromise has been effected which, if it receives the co-operation of all those most concerned, will do much to foster the good relations which should exist between farmer and hunter.

A Doubtful Benefit

We had not even thought that anything or anybody could benefit from war except, perhaps, the profiteer, but in a recent issue of Life we find the following observations. "During the last war, the feathered population

of Europe increased greatly because hunters were too busy shooting at each other to shoot at birds. With population in many species dropping near the danger point, ornithologists think the war has come just in time to save them. Not many birds will be killed by the war. Curiously enough, conservationists believe that the war will also help Europe's fish population. The North Sea has been badly over-fished for some time. But fishermen are now refusing to go out into its dangerous, mine-strewn waters, leaving the fish to live and breed in the comparative safety of a wartime sea."

When we think of that "wartime sea", with its magnetic mines, depth charges, torpedoes and aerial bombs, we have a feeling that the margin of safety has not materially changed, and that the poor fish are still in a tough spot.

Results from Artificial Feeding

The question as to whether liver-fed fish raised in rearing ponds make any better progress than those reared under natural conditions appears to be completely answered in the following brief article from the Fisheries News Bulletin, published by the Department of Fisheries, Ottawa.

"Proving, too, that environment plays an important part in the life of fish as it does in humans, the value of rearing ponds in fish culture is graphically illustrated in specimen trout fingerlings recently received by the fish culture branch of the Dominion Department of Fisheries from its station at Coldbrook, N.S.

Sample speckled trout fingerlings ranging from 5 $\frac{1}{8}$ inches, to 6 $\frac{1}{8}$ inches, taken from a group of trout which began to feed in the rearing ponds on May 7, show a surprising development made between May and October.

Studies of speckled trout in their wild state by some other fish culturists made some years ago resulted in the conclusion "that the evidence at hand seems to show that speckled trout increase in length at about the same rate in three different types of habitat, viz., a cold Chara pond, a warm, hard-water river, and a Laurentian lake."

Average size of speckled trout examined during this observation showed:

Trout in their first year	2.0 inches
" " second year	4.8 inches
" " third year	7.5 inches
" " fourth year	10.5 inches
" " fifth year	13.5 inches

The Coldbrook trout, then, after they had been feeding for about five months in the rearing pond, were almost as large as the wild trout checked in the observation, when they were 27 months old. In other words, it took the wild trout five times as long to reach the seven-inch size in their natural habitat as it took the Coldbrook trout to attain the same size in the rearing ponds.

While in the ponds the Coldbrook trout were fed in the normal hatchery manner on a diet of liver, beef hearts, and plucks. Their rapid development under rearing pond conditions and feeding gives evidence of the value of this type of fish culture in maintaining Canada's fish population, which is, after all, the object of all fish cultural experiments and activity."

The One That Got Away

(James M. Petersen)

*What's the thrill you best remember
'Round the fire, late at night,
Was it netting that big rainbow
After you had won the fight?
Is that story you are telling
The important thing today?
Say—I'll bet what you'll remember
Is the one that got away!*

*In the evening, after sundown,
When the daily hunt is o'er,
When you're cleaning up your shotgun
And are adding up the score,
When your limit, quail or ringneck,
You so proudly do display—
Is it "limits" you'll remember
Or the one that got away?*

*Honest, what's your favourite story?
Not the grandpa of them all,
Not the shooting of that partridge,
Nor the head there on the wall,
Not some tale of your own prowess
In your memory there to stay,
But a battle won against you
By the one that got away!*

*There's a glow of admiration
For the joe who tests your steel,
You appreciate raw courage
Even though defeat you feel,
Deep down under you're not sorry
That you lost the fight today,
Why, it's ten-to-one you'll brag
About—the one that got away!*

—*Hunting & Fishing.*



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

January and February
1940

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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1939 a Tragic Year

THE year 1939 will be recorded in history as a tragic one. It introduced another major war, with all the fiendish and terrible possibilities of modern scientific achievement; it witnessed the ruthless decimation of a proud people without regard for humanitarian principles or Christian ethics; it saw every channel of international justice blocked by greed and the lust for power; and as it ebbed to its close death stalked with merciless abandon upon sea, air and land.

That is an outline of the picture which will be recorded in the pages of history, but there are other positive accomplishments which are less likely to catch the eye of the historian, not the least of which is a growing interest in the protection and restoration of our natural resources. As a result of education and publicity the public has become more conservation-minded than ever before. Among sportsmen this is reflected in increased organized effort to eliminate waste and ensure a proper respect for the laws and regulations.

Effective wildlife conservation, however, is dependant upon many related factors, such as trees, vegetation, water, food and cover, and unless these receive equal attention the effort is not complete. During the year there has been an ever-increasing interest in reforestation and the restoration of swamp areas for the purpose of checking floods and the drying up of once trout filled streams. This has culminated in an extensive plan to restore the Luther Swamp by the erection of two dams on the Grand River. Work on the first of these was started and considerable progress has been made. When the swamp has been restored to its natural condition it is hoped that a great many of the rivers which flow through Southwestern Ontario and have their source in or near the Luther Swamp will be benefited by a regulated flow of water. This will, of course, tremendously improve the fishing possibilities.

In so far as the Department of Game and Fisheries is concerned 1939 was a year of progressive development. Fish culture operations were further expanded through the addition of more hatchery and rearing pond facilities. More pheasants were released than during the previous year. The fish and game resources of the Province are in better shape than they have been for a quarter of a century. This is confirmed by the fact that revenue reached the highest peak in the history of the Department.

As we commence a new year the International situation is in the lap of the gods—and, "we know not what a day or an hour may bring forth"—but wildlife conservation is still largely in the hands of the sportsman. Let us recognize our responsibility and act accordingly.

"It Looked Like a Deer"

In Sudbury recently two men pleaded guilty to charges of shooting three elk in the Burwash Crown Game Preserve and, in lieu of fines amounting to \$136 in the one case and \$125 in the other, went to gaol for a period of forty days each. In the course of their defense both men maintained that the elk looked like deer; one of them remarking that he had never seen an elk before. It may be accepted as true that this man had never seen an elk before—they are not common throughout the Province, and are mostly confined within Game Preserves where these hunters had no right to be—but to say that they "look like deer" is to proclaim the hunters as very inexperienced or conveniently lacking in perception. We have recently described both animals in the Bulletin, and have no intention of repeating these descriptions now, except to say that in size alone the bull elk is enormous, being as large as a horse, and the female is so much larger than a doe that there is positively no excuse for mistaking them.

Recently a hunter shot an eagle, which is a protected bird, and in extenuation protested that he thought it was a hawk. In this case there might be some excuse for the error, for a bird on the wing is sometimes difficult to identify. It is the duty of the hunter, however, to restrain his trigger finger unless he is sure that his prey is legal game.

This business of mistaken identity, however, has a much more extensive application than just the inability to distinguish game. It becomes tragic when the hunter disregards one of the most important rules associated with the use of a gun for hunting purposes. Several lives were needlessly sacrificed during the past year because hunters failed to determine precisely, before shooting, just what species of animal they were firing at. At no time is there any similarity in appearance between man and a groundhog, or a pheasant, nor—though dressed in the most gaudy or utilitarian of hunting togs—have we ever seen one who looked like a deer. Yet at various times men have killed their companions in the field and then, overcome with remorse, have tried to explain how, because of dress, posture or actions, the victim looked like that for which they were hunting and an over-anxiety to bag the prize completed the tragedy. It is hard to explain this temporary lapse of mental control—for to such it must be ascribed—yet the imagination will paint for us almost any picture we desire. The hunting field, however, is no place to exercise the imagination, particularly if one is armed with a loaded firearm and abetted by a nervous disposition.

Another source of tragedy in the woods is that lack of control which causes the hunter to fire at an unseen or quite indefinite target. Few animals can make their way through the bush without giving some intimation of their presence, and man is not one of them. The over-anxious hunter frequently has a one-track mind when stationed on a runway, and those mysterious sounds he hears have but one interpretation—game. Thus keyed up, he soon detects motion, and however indistinct it may be it assumes the guise of legitimate game. Lack of control at this point may mean grief and remorse for the rest of his life, and this, unfortunately, has too often happened.

The moral of all this is that hunters who are unable to identify their

game should refrain from shooting. "It looked like a deer" is no excuse if the warden comes along and finds you with an elk; nor is "I thought it was a deer" either a comforting or convincing explanation to make to the widow of your best friend.

The Moose (*Alce Americanus*)

The moose is the largest of our game animals and the "big brother" of the deer family. Its average size is equal to that of a large horse, and the fighting weight of the bull often exceeds 1,000 pounds. The female of the species is much smaller than the male and, like the doe deer, is without antlers. The moose is not a handsome animal, and his long legs, high shoulders and stubby tail give him an ungainly appearance. Other physical characteristics but serve to add to his general awkwardness. In addition to his long legs, his head, nostrils and ears are of enormous proportions, while at the same time the body is short and thick, the eyes small and the upper lip long, heavy and flexible. This upper lip is square in shape and, because of a deep furrow down the middle, appears to be divided. The neck of the male is adorned with a mane of stiff hairs which are often quite long. From the throat hang two fleshy dewlaps, and these are covered with long black hairs. The pelt varies in colour according to season and climate, from pale to dark gray and at times a glossy black.

An imposing and striking adornment of the bull is his antlers. Their enormous dimensions add considerably to the massiveness of his appearance. In its first season the young bull sprouts two knobs about two inches long, and when a year old these develop into spikes about six inches long which remain till late in the spring, when they drop off, and some time later the same year are replaced by longer forked horns. In the fourth year the horns branch forward and flatten out, and in the fifth and sixth years they grow triangular, with the flat, or palmated portions ending in points, the whole resembling an expanded hand. After the fifth year the most perfect antlers are produced, the horns often measuring five feet from root to extremity. After the second year the horns are cast annually in December or the early part of the following year, but the rate of growth of the new set is quite rapid, and by late summer is complete. The process of shedding the old and developing the new is practically the same as with the deer, and, like the deer, the antlers are in velvet during the summer and are very tender.

Probably because of its long forelegs and short neck the moose subsists by browsing; grazing being almost impossible. Its long legs, however, enable it to reach far up into the trees and bring down the branches where the leaves and twigs are readily plucked and carried to the mouth by the huge, protruding upper lip. During the summer it suffers greatly from flies, and as a consequence spends most of its time in the water, where it feeds on aquatic plants, both on the surface and under the water. Frequently, in fact, it disappears completely under the water searching for and feeding on the lily roots, etc.

The rutting season in the fall finds the moose roaming the woods, proud and defiant, ready and eager to do battle with all comers. At this time

his roar is heard throughout the forest and is answered by the wild, long call of the cow.

The moose is now seldom found south of the French and Mattawa Rivers, but is fairly generally distributed in the north except in the extreme section.

To ensure that this noble animal will not become unduly depleted close seasons have been provided in two extensive areas of the moose country.

It is quite a common occurrence for two rampaging buck deer to lock horns in the fight for supremacy during the mating season, but bull moose rarely lock horns because the antlers are palmated. The Biological Survey reports an incident of this nature, however, in a news release received today.

It appears that an agent of the Alaska Game Commission named Benson while flying in a plane over Farewell Lake in Rainy Pass, on a routine patrol of his district, sighted two bull moose fighting desperately on the frozen waters of the lake. The plane was headed groundward to give the agent a better view of the struggle. Closer inspection revealed that the moose had locked horns and both were doomed to death.

The agent headed for McGrath, 130 miles away, where he obtained ropes and saws. Three workers accompanied him on the return trip. When they arrived the animals were still locked together.

Risking the danger of being gored by the maddened bulls, the rescuers approached the animals and lassoed them. While two men held the ropes taut, the agent and an aide sawed off part of the antlers.

As soon as the horns were cut through, the men jumped clear of the animals to avoid attack. Nevertheless, the larger bull rushed his benefactors. They needed no invitation to scamper to safety.

While the larger bull strode away into the forest, the smaller one remained on the ground, and soon died from a deep neck wound inflicted by his antagonist.

Recreation in War Time

The most important problem before the nation today is that of winning the war. To that end all the resources of the Empire must be organized and correlated. There should be no waste, or wasted effort, for the magnitude of the task is quite obvious, and the result of failure terrible to contemplate. We shall not fail if our effort is complete and well directed.

At the beginning of the last war the slogan "Business as usual" was in general use, and implied that there was to be no let-up in trade or commerce. So far as possible this attitude was maintained, but in the tremendous war effort necessary to success many of the peaceful pursuits of industry were diverted to war purposes, and circumstances dictated necessary changes in social and business life.

The labour and energy necessary to the maximum endeavour plus the anxiety and tragedy with which wars are surrounded place a very great strain upon the physical and mental capacities of the peoples most concerned. Situated as we are at a very remote distance from the scene of active hostilities, we have not yet suffered unduly as a result of the present situation. However, there may be dark days ahead when the fury of the

fighting is enlarged to include the land as well as the sea and air; dark days when the casualty lists begin seeping through, and hearts as well as nerves, reach the breaking point; dark days of uncertainty as the tide of battle ebbs and flows, with the end nowhere in sight. Under such conditions it is just as necessary to maintain morale on the home front as in the battle lines. Any weakening of determination; any dissipation of strength or courage, is fatal to a successful outcome.

Morale can only be maintained through a proper mental perspective. Such a state of mind requires physical and mental relaxation. Tired bodies or minds dulled by sorrow or anxiety are less capable of effective resistance to subversive forces. Obviously therefore, while concentrating on the task before us, we must play as well as work, even during the stress of war.

It will be recalled that Drake waited for the approach of the Spanish Armada on the bowling green; that on the eve of the battle of Waterloo the British officers had to be recalled from a ball to meet the enemy; that athletic contests of all kinds are a feature of army life on every front, and, most apt of all so far as this article is concerned, Mr. Chamberlain went fishing while the war clouds were darkening the sky of peace, and continued to do so after they broke.

The things we like to remember about the last war have no relation to the actual fighting, vivid and nerve-wracking though it was, but are mainly concerned with humorous incidents, field contests, entertainment and friendships. In short, play supplied the sunshine in an environment dark with stern and gruesome realities.

In Canada we live in a natural playground; a country so richly endowed by Nature that it literally begs us to take our relaxation in the great out-of-doors. This, we assert with pride, applies in no uncertain measure to the Province of Ontario. Our rich and only partly explored northland, our countless thousands of lakes and rivers, our plenitude of game and fish, our attractive summer resorts and excellent transportation facilities, leave us no excuse for physical inactivity or mental sluggishness.

The sedentary worker requires exercise; the manual worker physical relaxation, and all of us the mental refreshment which these activities inspire. We cannot ignore these prime requisites even during the period of war, for health and morale are vital factors in this struggle for existence.

"The physical vigour, moral strength and clean simplicity of mind of the American people," says ex-President Coolidge, "can be immeasurably furthered by the properly developed opportunities for the life in the open afforded by our forests, mountains and waterways." It is equally true of all peoples, although not all have the opportunity or privilege of enjoying such a heritage.

We need an incentive to take us into the out-of-doors, and it must be capable of holding our enthusiasm. The beauties of Nature are fascinating to those whose minds are tuned to appreciate them, but to countless thousands the great open spaces and water areas are but the playgrounds for tired humanity. Their lure is the opportunity to play. Few golfers would be found tramping the fairways if they could not knock the little white ball

around; and the appeal of forest and field, lake and stream would be less alluring if there were no game and fish to stimulate interest. Nature's playground affords many opportunities for recreation and rest, and chief among these are the facilities for fishing and hunting. The environment into which both of these sports lead is clean and wholesome and the actual participation is packed with thrills.

Those of us whose duty it is to keep the wheels of industry turning, should take advantage of our opportunities. The fires will burn more brightly, and the wheels turn with a smoother rhythm if our bodies radiate health and our eyes sparkle with the reflection of keen and determined minds. Even in the dark days ahead there must, of necessity, be hours of leisure for rest and recuperation. Let's go fishing!

Taking the Wildfowl Census

An important factor in determining the proper regulations and bag limits in connection with waterfowl is the annual survey and estimate of the number of wild ducks, geese and swans made by the Bureau of Biological Survey, Washington. This survey is quite extensive, and some 3,000 employees and co-operators of the Bureau are employed in the work. Almost every branch of the Government service which has any relation to natural resources or can furnish means for carrying out the work is represented in the organization. Included we find, according to a recent bulletin, the National Park Service, Army Air Corps, Naval Air Service, Coast Guard, Forest Service, Soil Conservation Service, State Forestry, Game and Fish Departments, commercial organizations and private citizens. "Under the leadership of ten regional directors," we are informed, "the corps of observers making the sixth annual waterfowl inventory are using blimps, airplanes, autogiros, boats, automobiles and snowshoes to get to the concentration areas."

It is pointed out that inventory figures are not to be considered as accurate counts of waterfowl populations, but rather as valuable indications of the trends of bird populations. These inventories are taken during January because the birds are on their wintering grounds and seldom move from one concentration area to another. Because the flocks are almost stationary at this time there is less likelihood of duplication in observations.

The field observers who make the survey are picked men who have had long experience in this type of work. Each observer is sent to the same area year after year, so that increasing accuracy may be attained in appraising increases or decreases in waterfowl numbers. Many areas, particularly those having heavy bird concentrations, are covered simultaneously by air, auto and boat, so that observers can compare notes and estimates with one another.

When the observers have completed their work the returns from the various regions are tabulated, summarized, and sent to Washington, where estimates of the totals for the various species are compiled. Last year Survey experts estimated that there were between fifty-five and sixty million migratory waterfowl on the continent.

A few years ago the count showed a sharp decline in numbers, and as a

result more stringent regulations were applied. Since then there has been a general upward trend, and it appears as if the measures which have been taken to protect and restore the population are meeting with success.

Canadian hunters are deeply interested in this annual waterfowl survey because these are the birds which, together with their offspring, will provide the sport for our duck hunters next fall, and it is partly upon this survey that the Federal Government frames its regulations.

The Game Warden Speaks

The following article written by a Game Warden and reproduced in part appeared in the February issue of the Alabama Game and Fish News. It presents the picture from the warden's viewpoint, a phase which is too often overlooked.

"A written defense of game wardens would just be so much eye-wash. Actually, game wardens need no defense. But there is no doubt but that they could stand for a lot of understanding. Stripped down to the essentials, it soon becomes apparent that the biggest thing wrong with the average game warden (and this is going to make a lotta people mad) is the type of sportsmen he runs into. A good sportsman thinks a game warden is the salt of the earth. What a poor sportsman thinks of him must naturally be censored in any magazine that may eventually be read by the kiddies, God bless 'em.

Actually a game warden is a rather strange animal. His authority as a law enforcement officer extends just so far, yet he frequently carries the dignity of the law into remote sections seldom reached by other law enforcement agencies. Certainly, enforcing laws—the duty for which he is best known—is actually the smallest part of his job. Among other things, the efficient warden must be something of a naturalist, trapper, botanist and detective—to say nothing of a philosopher and natural-born listener, who diplomatically clucks his tongue at the right moment when a sportsman bends his ear with details of how the big 'un 'got away'.

He is a living paradox, because he has an unpleasant task to do pleasantly.

Game wardens come in all types and sizes, and have temperaments that run the gamut from screwball to the sublime. Therefore, there cannot be any 'average' warden. You just can't work out a classification for men like you can for eggs and muskrat hides. But a composite picture of all wardens might produce a mythical one, whom we shall call Joe Doakes.

Before his appointment as a warden, he was a salesman, and while he occasionally voices a longing for the 'good ole days', it would take nothing short of an earthquake to shake him off his present job. For Nature instills in all who keep close contact with her for long a profound affection. Joe wouldn't trade the sound of the whip-poor-will in the darkness, nor the smell of pine in his nostrils and the feel of brush around his feet for the best office job in the world. He has absorbed enough of Nature to have the patience of Job, and he can sit with his back to a pine and ooze the kind of contentment that a Wall Street banker spends millions in a hopeless attempt to buy.

His love for Nature embraces all the animals, even the two-legged ones who cause him the most worry.

He had rather be disliked for doing his duty, than liked for not doing it, but does his best to strike a happy medium. Sometimes he fails miserably, and it worries him, but the fact that he succeeds in most cases helps to console him. His greatest sorrow is that no matter how well he does his duty, he is still anathema to some honest people, who have drawn their impressions of him from an unfriendly source.

If Doakes tells a game violator he is sorry he has to arrest him, he is either being socially conventional or hypocritical. He isn't sorry; he is darned glad he caught him, and wishes he could catch them all. He has never found a violator who had legitimate excuse for violating a game law, although most of them think they have. He knows that, except for a few technicalities, a good sportsman doesn't need a set of rules to keep within the law. Game laws are common sense and a good sportsman obeys them instinctively.

He knows that, excepting the chronic violator who earns his living despoiling Nature, there is no certain class of violator. A bank president is as apt to keep a seven-inch bass as an unemployed ditchdigger. But he always watches closely the grippers and grouchers. For experience has taught him that the man who gripes loudest and longest when he is subjected to a routine check is most likely to violate the law if he sees an opportunity of getting by with it.

Doakes also has on his blacklist those irksome violators, who, when caught, threaten all sorts of dire consequences. They run the gamut from: 'I'll have your job for this,' to 'I'm Colonel So-and-So, you can't do this to me'.

Joe is an amiable person and had much rather pass the time of day with a friendly sportsman than sit on an unruly one, or a smart-aleck one—but he doesn't consider himself efficient until he can do both.

Sportsmen, through their clubs and periodicals, are frequently given an opportunity to list the virtues they consider essential for a good warden. If Joe were given an opportunity to list the essentials of a good sportsman, they would probably run in this order:

- (1) Be as courteous to me as I am to you.
- (2) Display game and licenses without being asked when I identify myself.
- (3) Think of me as an aid to better hunting and better fishing, rather than an obstacle to your hunting and fishing happiness.

Sometimes, when Joe lies down at night after a hard day, he has a beautiful dream. In it all sportsmen and wardens are friends. They greet each other affectionately and respect one another.

Indeed, it is a beautiful dream, and a look of peace and contentment settles on Joe's sun and windburned countenance. But then everything goes berserk. Seven-inch bass jump from streams into creels. Turkey hens and doe deer shoot themselves and fall beside hunters.

The dream of peace turns into a nightmare, and Joe sighs and tosses, and tries to get a little rest for the hard day ahead."

The Bob-White-Quail

"What's the difference between quail and hungarian partridge?" asked a hunter of some experience who called at the office the other day. We showed him pictures of both, and he immediately stated, quite mysteriously, "they were Hungarian partridge". It appears that he and a friend were motoring along a country road within a few miles of the city the previous day when they came across a flock of about twelve or fourteen birds feeding on the roadway which they recognized as either quail or hungarian partridge, but did not know enough about either to be able to identify them.

We were discussing the recent pheasant shoot with a well-known sportsman at a meeting we attended a few nights ago, and he told us this one. He had recently purchased a springer pup and was quite enthusiastic about its possibilities in the hunting field. A farmer friend whose place he visited during the hunt told him that there were quite a number of woodcock located in an area behind his farm. He started off in that direction and on the way met a couple of hunters coming from the location. "Did you raise any woodcock in there?" he enquired. "What are they like?" queried one of the men. My sportsman friend had already shot one so he took it out of his bag and showed it to them. "Is that what they are," one of the men exclaimed, "why, we raised at least a dozen of them on the way over."

There appears to be a great deal of confusion in the minds of many of the younger or less experienced hunters when it comes to identifying the various species of the smaller upland game birds. To many, quail, hungarian partridge, woodcock and snipe are but names, for they have either not had the opportunity of bagging any, or have not been keenly enough interested to learn their physical characteristics. These birds, of course, are not as plentiful as we could wish them to be, and open seasons are not general, therefore there is some excuse for the city sportsman not being familiar with them.

The Bob-White-Quail—with which this article deals, is, we are told by ornithologists, not a quail at all, but a partridge. This information is nothing to worry about, for this gamey little bird is known as a quail by sportsmen all over the continent, and any other name would but lead to confusion and add nothing to its sporting qualities.

The colouring of the quail is quite varied. The top of the head is reddish, with the sides of the neck and throat white, while a black band extends backwards beneath the eye within the white. The fore part of the back, the sides and front of the breast, are a dull, pinkish red. The sides of the body and parts of the wing are brownish red. In the female the white markings of the head are replaced by brownish yellow; the black ones with a brownish colour.

The quail is a ground nesting bird and likes to set up its home on low lands, which it does late in April or early in May. The eggs are small, but the nest will probably contain from twelve to twenty, and the little mother is very faithful during the incubation period. The young birds are very active, and are able to run about and follow their mother almost as soon as hatched. The mother usually raises a second brood, and these invariably unite with the first in the autumn. The whole family, if undisturbed, will

remain together until next Spring, when they separate in pairs to take up housekeeping for themselves. During the breeding season the male bird frequently mounts a stump or fence and re-assures his mate with a two-tone staccato whistle which sounds like "bob-white", hence the name.



Bob-White-Quail

Because of the fact that they roost upon the ground as a family, quail are probably subjected to more dangers than most game birds. They spend the night sitting in a circle, heads out and tails to the centre, generally in the weedy edge of some swale where they are afforded protective covering. This circle formation enables them to keep a watch on all quarters for enemies, and adds to their warmth during the winter. The arrangement, however, is not without its weaknesses, one of which is the hazard of being covered by drifting snow, and this, if followed by a partial thaw usually forms a crust which imprisons them and frequently results in death from

hunger. Natural enemies also take advantage of this manner of roosting, the chance of destruction being greater than if only one bird was involved.

As an aid to agriculture the quail occupies a leading place so far as game birds are concerned. The United States Biological Survey has made a very thorough investigation of the food habits of the bob-white, and found that its economic value as a destroyer of insects and weed seeds is very high. A list of the contents taken from a large number of stomachs examined looks like an inventory of the insect world and includes such destructive species as potato beetles, cucumber beetles, wire worms, weevils, locusts, grasshoppers, chinch bugs, squash bugs and caterpillars.

Two-score years ago quail were fairly common in southern Ontario, but a multiplicity of causes has contributed to reducing the population, although they are still to be found in reasonable numbers in many western counties and in certain eastern areas.

As a game bird the bob-white commands a great deal of respect from the sportsman. Although comparatively small it is very hardy, and is able to stand severe cold weather if food is available. The Biological Survey says: "Winter cold—unless unusually severe—and preying enemies, hold few terrors for the well-fed bob-white, or quail. Neither does snow so long as the bird can find food above the snow line. It is only when the food supply is scanty or covered with snow so that the birds cannot get to it that winter is likely to take heavy toll. The well-fed quail lives through cold that may finish half-starved birds. With an adequate food supply the birds are alert and keep out of the way of enemies, a-wing and on foot. With food available near good cover, the birds do not need to take dangerous chances, and can thus escape foxes, raccoons, and other fury predators, also the few hawks and owls that are quail-killers when they have the opportunity."

Sportsmen who are interested in this game little bird, and farmers who recognize its worth as an aid to agriculture, may play an important part in its conservation and development, by seeing that it is not decimated through lack of food during severe wintry weather. To quote once more from the Survey publication: "The best way to feed quail is by encouraging wild growth or planting crop seeds in steeps or patches to be left unharvested. But if there is a scarcity of this sort of feed, farmers and sportsmen can help the birds through a bad season by scattering harvested grain where the birds can get it. Heads of sorghum, and fodder corn, will be used with less waste than threshed grains. Hang ear corn on fences. It is a mistake to encourage quail to come to the barnyard to pick up scatterings of grain. It is better to take the grain to the natural cover in which the birds are wintering. Bob-whites and poultry do not mix well. Each is likely to contract diseases from the other."

The Business of Trapping

During the latter part of January the annual sale of confiscated pelts was held by the Department and licensed fur buyers were invited to inspect the stock and submit tenders for each lot. These furs had been seized for various infractions of the laws and represented a wide variety of fur-bearers. The pelts included the following: beaver 252, fox (red) 26, muskrat 870,

otter 11, raccoon 75, and a miscellaneous assortment of bear, fisher, cross fox, marten, mink, skunk, squirrel, weasel and wolf.

While the number of confiscated pelts is quite formidable it is less than last year. This is not because there has been any let-up in enforcement, but rather because unscrupulous persons are beginning to realize that it is more profitable to carry on their operations within the law than risk the penalties which may be exacted for illegal taking, purchase, or sale.

Trapping, as carried on in Northern Ontario, is a specialized business requiring a great deal of knowledge concerning wildlife and much experience in the bush. It is a strenuous life; for trap lines are often quite extensive, and the rigours of the climate make transportation difficult. Then, too, the matter of food and shelter while out on the line is one which must be pre-arranged, for isolation begins as soon as the trapper leaves his base.

Each licensed trapper is given a designated area for his operations, and there is no overlapping. This has the effect of eliminating private disputes as to territory and also of placing the onus of protecting and conserving the resources, in large measure, upon the trapper. It also enables the licensee to provide himself with permanent shelters at suitable points along his route, and of equipping these with the minimum of furnishings necessary to his creature comforts. Most of these men are experienced trappers, who know the area thoroughly and have made themselves familiar with its possibilities. Wildlife fur-bearers are their stock-in-trade, and while this stock is capable of self-replenishment it can readily become depleted through unwise use. In order to maintain his source of income the trapper must regulate his take so that the wildlife within his territory, whether permanent or transitory, will not fall below the level required to replenish the stock. With an established business under his control he should consider the future of that business in the light of supply and demand. The practical application of this principle is to be found in the conservation of the resources which make it possible.

Conservation Through Co-operation

In a recent speech broadcast over the radio Prime Minister Chamberlain specifically referred to the tremendous organization necessary to keep the armed forces of the Empire in food, clothing, equipment, war material, etc.—much of which has to be imported over submarine and mine-infested seas—and at the same time “keep the home fires burning” even while the lights are dimmed! Such a gigantic task requires countless separate organizations or departments, each with an allotted task and playing a vital part in the general scheme of things, and all of them co-operating to the end that every cog in the intricate machinery shall turn smoothly and efficiently. Only when these various efforts are correlated, i.e., working together in the common interest, is the complicated machinery producing its most efficient and effective work.

The machinery of organization, however, cannot of itself function efficiently unless it, too, is backed by the close co-operation of the individuals who, in whatever capacity they may serve, make up its personnel. Peak efficiency is possible only where the individual job becomes a component part of the whole; in other words, when everyone concerned is working

towards the same end, and selfish interests are subjugated to the general good. It is only under such conditions that maximum results can be attained.

In every sphere of activity, even in normal times, the spirit of co-operation is spreading because a united front carries weight, whereas divided interests lack the driving force necessary to success. We see this in the field of industry, on the agricultural front, and even in the realm of international relationships devoted to the purpose of developing world peace.

It is the aim of those who direct our national life that our war efforts shall be thoroughly organized to prevent waste and provide a new high in production. Such a result requires the individual co-operation of every citizen. The natural resources of the country are our chief line of defense, and are capable of yielding tremendous offensive power. The proper utilization and development of these resources is the responsibility of every citizen.

Because the resources of the nation are being geared for war, the economic value of our wildlife will become of increasing importance. The situation is clearly set forth in a recent Bulletin of the Ontario Federation of Anglers, from which we quote.

"At a critical time such as this in the history of our Dominion, an outstanding opportunity is presented in which organizations such as the Federation can plan and carry out a programme for the promotion of conservation of the natural resources of the Province with far-reaching and lasting benefit to Canada.

"Wars are now more than ever a question of endurance, and financial resources are a factor of the greatest importance. Financial resources are dependent on the maintenance of trade at high levels and continuous progress in all industries. The tourist trade of this Province is one of her greatest industries and, important as it has been in the past, the closing of Europe to tourists on account of the war promises considerable augmentation of this trade in the future, if we see to it that the supply of natural resources of fish and game are not allowed to become depleted.

"For these reasons, your executive is convinced that rather than relax, it is an obligation on the part of all anglers, both collectively and individually, to redouble their efforts for fish and game conservation, not only for the purposes that have actuated them in the past, but as a national duty brought about by the emergency now facing the Empire."

We are happy to note that the Federation is alive to the situation and is prepared to recommend more organized and co-operative assistance than ever before. As this executive group points out, the individual responsibility has become "a national duty".

We have long appreciated the fact that our natural resources of fur, fish and game have an economic value which contributes in no small measure to the national income. It follows, therefore, that in the present emergency the conservation of these resources is of very great importance. When we speak of conserving our wildlife we have no idea of implying merely the husbanding of this resource in order to develop it for future generations; the right of the present generation to the fullest use within necessary limits is conceded. Indeed, it is only through proper use that this asset, like all other natural resources, has any real worth. Fortunately, the right to use

it may be exercised without impoverishing the future if we protect our capital inheritance by eliminating waste and limiting our take to personal needs. The Department of Game and Fisheries has been charged with the responsibility of administering the regulations which govern the use of this important heritage, and its whole programme of protection, development and rehabilitation is based on the idea of perpetual use. The success of this policy is contingent upon the co-operation of those who use the resources and in this regard the responsibility of the sportsman is obvious.

Waste of our fish and game takes many forms, but the chief destruction is caused by illegal taking. Out of season slaughter, excess limits, the use of unlawful equipment, etc., are some of the factors which nullify conservational activities. The poacher has no place in the realm of sportsmanship, and his depredations are a menace to the rights of others. With a proper realization of his own responsibility for the protection of his sport the sportsman must co-operate to eliminate this saboteur of public property.

The sportsman himself, however, may be contributing to waste without breaking the law, if he consistently makes the legal limit his goal without regard to his personal requirements. Bag limits are regulatory measures intended to control, but the guiding factor must be the needs of the individual within the prescribed limit. When conditions are suitable and the fishing is good, for example, it takes a great deal of self-will to stop short of the limit, but he who practises this restraint will be helping to ensure his sport for tomorrow. "Many of us can remember," says a recent writer, "the outdoor news and features of bygone days. They consisted largely of pictures and stories of red-blooded citizens posed with large quantities of dead fish or game; or they told how the alarm clock rang, to usher in a day of heavy shooting in which the author missed only a few shots." It is true that such photos and news items were very popular and seemed to those most closely concerned to be the hall mark of skill or heroics. Such ostentatious displays are fortunately a thing of the past, and when they do appear merely arouse our ire or enlist our sympathies. The ethics of the sport now emphasize the thrill rather than the kill, and in this spirit big catches are not essential to a full enjoyment of the recreational possibilities.

Individual support for all conservation measures is necessary to ensure an equitable distribution and proper use of all the resources, but the full strength of such co-operation is only possible through organized endeavour. The individual sportsman should, therefore, join an established fish and game protective association, or organize one in his own community. For more effective service such local associations might affiliate themselves with one or other of the federations, thus ensuring greater strength through consolidation of work and aims. The strength in numbers and unity of purpose thus established should be directed towards the task of seeing that the machinery of conservation functions without sabotage and that it has the powerful backing of public opinion. Thus organized and directed, the individual rights of the sportsman will be assured, while the greatest possible benefit will accrue to our national wealth through making the best possible use of a valuable natural resource.

* * * * *

Since the above was written the question of amalgamation, or some

closer form of co-operation, between the Ontario Federation of Anglers and the Ontario Hunter's Association has been discussed at the conventions of both organizations held recently in Toronto. The consensus of opinion seemed to be that such a move was quite practical and most desirable.

It was pointed out that according to information published lately there were 188 protective associations registered with the Department, of which 33 were angling, 24 hunting, and 131 angling and hunting. Almost 70 per cent of the local sportsmen's associations therefore, covered the activities of both hunters and anglers.

Under the present set-up the Provincial bodies are divided into hunters and anglers, and local clubs desiring to affiliate with both groups must split their interests, pay two separate membership fees and be content with divided representation. This divided interest has resulted in impaired effort because, as was pointed out, the local clubs cannot afford to pay two fees, and simply carry on in very many cases without the help of the parent bodies.

Those responsible for the discussion were tactful enough to point out that both parent bodies had records of service of which they were proud. The fact was further stressed that there was absolutely no thought of encroachment, but rather a desire to arrive at some measure of closer relationship, because of the similarity of interests and objects of the two organizations.

From the practical point of view it was demonstrated that united effort would result in an enlarged field through larger and more representative backing, and that a consolidation of the available revenue from fees and other sources would provide the means to carry out a more extended programme of conservation activities.

In peace, as well as in war, the benefits from unity of effort and purpose are quite obvious. We hope that any negotiations that may be entered into between the two groups for closer co-operation will be brought to a successful conclusion, and that the cause of wildlife conservation will receive a new impetus through the united efforts of all good sportsmen.

“EVENIN’”

Russell H. Leach

*Crickets chirpin' here an' yonder
All the katydids astir
As I set out here an' ponder
I can hear a partridge whirr;
In the west the sun is droppin'
Back behind the far-most pine
An' the evenin' star comes poppin'
O'er the darkenin' timber line.*

*I can hear the bullfrogs holler
Makin' music for their tads
An' the black bass start to waller
Down among the lily pads;
Fireflies with their little lanterns
Flashin' off and on at will
Shadders makin' fancy patterns
With the Master Artist's skill.*

*It's a joy to watch an' listen
When the twilight rolls aroun'
An' the first stars start to glisten
Like the jewels in a crown;
Somethin' grand about the evenin'
Come the closin' of the day,
Allus seems to me that Heaven
Ain't so dog-goned far away.*

—*Hunting and Fishing*



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DEPARTMENT OF

GAME AND FISHERIES

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HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

Hon. H. C. NIXON, *Provincial Secretary,
Minister in charge of Department.*

D. J. TAYLOR, *Deputy Minister.*

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Wild Lands and Wild Life

FEW countries with a corresponding degree of wealth or as high a standard of civilization possess so much wild land per capita as Canada. The Laurentians, Northern Ontario, the barren lands of the north-west, the rugged hill country of British Columbia and the Yukon—these are among the outposts of our civilization, and yet they have played an important part in the growth of the nation and the development of a distinctive people. When we speak of these areas, however, we are inclined to picture them as inhospitable and uninviting, consisting for the most part of surface rock and heavy forest growth, with semi-arctic conditions during the winter and completely dominated by black flies and mosquitoes during the summer. The picture is not without a foundation of truth, yet it represents but a very superficial understanding of the wealth—visible and invisible—which our wild lands represent, or their potentialities for recreation and health.

These wilderness lands have contributed in no small measure to our national wealth, and have given us a race of hardy, resourceful and self-reliant people. The fur traders pioneered the opening up of these dense and forbidding areas; the prospectors pierced their depth to discover hidden wealth, and in later years the sportsman and tourist outfitter have found in them the recreational possibilities which have made the vacation business one of our largest industries.

Generally speaking, our people are familiar with and love the out-of-doors and the so-called wildlands. They have long since discovered the freedom of camp life, the fascination of exploration by canoe or afoot, and the thrill of hunting and fishing. The spell of our northern woods is their loneliness, but the solitude is in no way uninviting.

Much of our northern bush and other wildlands will always be wilderness, yet in these areas are most of our rich stores of mineral wealth, our forest resources and the last barriers of unspoiled nature containing an abundance of desirable wild life. It is conceivable that centuries of intensive working might exhaust the wealth of the mines; but given an opportunity the forest and wildlife resources will take care of themselves. These wild lands were intended by Nature to be playgrounds rather than populous centres; and they are wild only in the sense that they are unspoiled.

It is where conditions are natural that wildlife thrives, and wild life is the lodestone which attracts countless thousands into the very heart of Nature herself. There is an obvious duty upon us, therefore, to conserve the wildlands as well as the wildlife. Let us protect both from our own indiscretions; from the pestilence of fire and the crime of unnecessary waste.

The Opening Day

"It's a long lane that has no turning," says the ancient proverb, and in like manner we might add, it's a long season that has no opening date! For some days now we have found ourselves becoming more and more intrigued by the attractive ads in the sporting magazines and the appeal of the free catalogue. These business cocktails are a blend of all that is fascinating to the angler, particularly at this season of the year. For months fishing has just been something to dream about, but the days are rapidly growing longer, the ice is beginning to break, and May 1st is "just around the corner", with "a rainbow in the sky", and countless thousands of rainbow-hued beauties in almost every stream. The craving to burst the bonds of restraint is intensified by the appeal of the well-directed advertisement, and the lure of returning Spring. To the young man Spring may be a season of romance towards which his fancy lightly turns, but to the piscatorial enthusiast it is the dawn of a new fishing season towards which his thoughts continually return with ever-increasing intensity.

We believe that "opening day" has a greater significance each year because of the large increase in the number of anglers throughout the Province, and the fact that the streams are being stocked more scientifically than ever before. Take the case of the speckled trout, for example. During the past four years close to 7,000,000 yearling and adult fish have been planted in suitable waters throughout the Province. In addition several million fingerlings have also been released. We are aware, of course, that the mere planting of fish does not ensure good fishing. Other environmental factors must also be taken into consideration such as food, water temperature and flow, etc. These, in turn, have ramifications which embrace such related problems as shade trees, reforestation and flood control. However, most of these problems are outside the scope of the Department except insofar as we are able to assist in meeting them through conservation and co-operation. Despite these brakes on progressive development it is a fact that there are still thousands of natural trout streams in the Province which are being restored to one-time abundance through the present stocking programme. The fish which are being released are not the tiny, helpless fry which once figured so largely in re-stocking efforts, but are yearlings and older, which means that they have long passed the stage when mortality is heaviest, and are reasonably able to take care of themselves. As a matter of fact a goodly proportion of them are of legal size when they are released, so the advantage to the angler should be obvious.

Another reason why May 1st has assumed a greater importance to the angler is the fact that he has discovered in many waters a new attraction in brown trout. For many years brown trout have been liberated in the fry and fingerling stages, but there has always been a general wail from anglers that this species was as elusive as a needle in a haystack. During the past few years, however, a great deal more has been learned about its environment and habits, with the result that in certain streams this species has taken the place of the speckled trout without in any way reducing the popularity of the sport. Some 539,444 yearling and adult brown trout have been planted in suitable waters in the past four years, and judging by the

enthusiastic reports received by the Department, these are beginning to produce excellent results.

The opening of the trout season, however, is also the beginning of the general angling season, for from then on by progressive stages each of the game fishes becomes available to the angler. In view of the recreational and healthgiving possibilities which this long open season affords, we hope the angler sportsman will remember his duty as a conservationist.

Remember

The following Editorial reprinted in part from "Outdoorsman" is very timely, in view of the fact that the opening of the angling season is at hand.

"We believe that if every one of the twelve million American fishermen will take a true sporting attitude to his catches, a good will result far more important than the combined re-stocking efforts of all conservation agencies. If every angler will give the fish a break by regarding them as "partners in sport" rather than "possibilities for the pan" an indelible scratch will have been made, and in those waters yet untainted by man's unwise doings America's number one recreation will be on the road to assured permanency. The following are points to remember when you pick up your rod and reel the first time this Spring, and on all subsequent occasions:

REMEMBER, first and foremost, that you fish for sport and for sport only. If you insist that you fish for food you are prostituting your reason and declaring yourself economically unwise to justify the destruction of a few fish. . . . The price of your rod and reel and the expense of your trip would buy a whole quarter of prime beef!

Remember you are ethically, legally, and in many instances biologically justified in retaining a carefully considered portion of your catch for food purposes, but by no dictate of man or Nature are you entitled to waste one ounce of fish flesh or to wantonly destroy the life of a single fish.

Remember, your friends did not purchase your fishing license and are not contributing money or effort to fish restoration. You are stealing from others when you kill fish for their tables.

Remember, the creel limit and length minimum laws were not made for sportsmen. A true sportsman may not even know the creel limit of his state as he is guided by his "conscience" limit alone, which perforce of the liberality of the fishing laws is invariably less than the state limit.

Remember, the true sportsman carried a tape measure for but one purpose—to determine the legality of possessing a mortally-wounded fish so as to prevent its waste.

Remember, a fish is a living organism, never meant to survive mauling by rough hands. Only in rare instances is it necessary for you to remove from the water any fish you do not intend to keep.

Remember, it is false bravado to 'land 'em without a net'. The weakest man alive can conquer the strongest bass or trout. A landing net makes possible more careful treatment of undersize fish, and is a conservation adjunct to your equipment.

Remember, your photo with a mile-long string of fish does not make

you a hero. It is a record of your greed and smallness, rather than of your valour and greatness. Your camera can be used more advantageously.

Remember, humaneness is a cardinal rule of all sportsmen. You humanely dispatch all 'keepers' before creeling them, and always string fish through the membranous tissue of both lips—never through the gills.

Remember the story of the fellow who killed the goose that laid the golden eggs. You think too much of your sport to destroy spawn-laden females or to molest nesting fish—whether the state law permits the taking of that species during its spawning season or not.

Remember, you have already won the battle when you net the fish. You can't lose by setting it free unharmed. You may win again some other day.

Remember, the poor sportsmanship of others is no justification for similar conduct on your part. You reason backwards when you argue, 'Why should I? Others don't.' Someone must be the leader. Good deeds and high motives are catching.

Remember, fishing is the most wholesome sport in the world. You give yourself and your children a break when you give a bass, trout, pike, or muskie a break."

Do Pheasants Destroy Crops?

We were discussing the ringneck pheasant, and the work the Department has done during the past few years to establish this excellent sporting bird throughout a large section of the southwestern part of the Province, at a farmers' meeting recently, and when the opportunity occurred one of our listeners asked if it was not a fact that the pheasant did considerable damage to crops, particularly to the tomato. We gave it as our opinion, that while the ringneck was not above taking his tomato juice direct from the source of supply, the damage that could be charged to his account was infinitesimal compared with the damage due to other forces, and that the debit was probably more than balanced by the control which it exercises over more destructive insects. It was also pointed out that the birds are not numerous enough in any one district, owing to the extent of the territory covered, to cause any material damage, except, perhaps, on Pelee Island, where their economic value far surpasses any damage they may do to crops.

An interesting preliminary report covering a series of investigations directed by the Pennsylvania Game Commission covering a study of crop damage by ringneck pheasants in Southeastern Pennsylvania has just been published, and is of particular interest in view of the above statement.

Introducing the subject, the report has this to say: "During recent years, reports of crop destruction by ringneck pheasants have frequently been received from numerous sections of Southeastern Pennsylvania. In the main, these have been concerned with the 'pulling' of freshly sprouted corn, with the 'picking' of early truck and late canning tomatoes, and the 'stripping' of eared sweet corn.

"It has long been felt that many of the reports received were greatly exaggerated, and that little actual crop damage is caused by pheasants. Furthermore, it is a known fact that the ringnecks are important insect destroyers, and it is commonly believed that the benefits derived from this

habit far outweigh the occasional crop damage actually inflicted by the birds. Nonetheless, the Pennsylvania Game Commission, at its July 1939 meeting, directed that a study of crop damage by ringneck pheasants in Southeastern Pennsylvania, particularly Lancaster County, be promptly undertaken by representatives of the Pennsylvania Co-operative Wildlife Research Unit and the Commission's own Division of Research". . . .

"Because," continues the report, "the project was not initiated until mid-summer, it has to date been possible to obtain data only on damage to tomatoes grown for wholesale canning purposes. Thus it is the object of this article merely to present a preliminary report on this one particular phase of the research, but the work will be continued and a complete report will be made public at a later date. . . .

"Several trips to the Lancaster County tomato fields were made in 1939. The first on August 10 and 11, was designed to determine the actual amount of damage to canning tomatoes caused by pheasants before any actual gathering of the fruits took place. This was followed by two additional visits on August 17 and September 6, when the same fields were re-checked for damage after the harvest and sale of the produce had begun.

"Three sample areas were selected in each field, one at either end and one in the middle of the patch. In these, every tomato found on the vines was counted and classified. This grouping broke the fruits into red and green classes and included information as to the various types of damage exhibited. The type groups were rot, sun scald, insect, cull, bird, disease, mammal, mechanical, freak and unknown. The bird damage included that caused by all species of birds, including the pheasant, the crow, the starling, the grackle, the domestic chicken and others."

An appended table shows the total number of tomatoes counted, the number of damaged tomatoes observed, and the percentage of damage falling into each of the ten types listed above.

For our purpose a few figures from the tables will suffice. It is noted that a total of 45,710 tomatoes were counted, and of these 2,326 were damaged. Of the number damaged the causes were apportioned as follows: rot 998, sun scald 223, insects 583, culls 242, birds 88, disease 109, mammals 41, mechanical 30, freak 5, unknown 7. In other words, out of the total tomatoes counted only 0.19 per cent were damaged by birds of all kinds.

Statistics for the red fruits which in most cases were ready to be picked and are included in the above figures, show that 4,187 were tallied, and of this number 1,487 were damaged. Here, again, rot was the important factor with 59.5 per cent of all damaged red tomatoes falling into this class, while only 4 per cent were injured by birds.

"Some farmers were inclined to blame birds for the rot," continues the report, "saying that this defect was really caused by bird picking. Other individuals, however, readily admitted that they knew rot was not caused by bird picking when the fruits were small. The majority of farmers were convinced, after they made an actual inspection trip, wherein true bird damage was pointed out, that the loss due to birds was very small. Furthermore, a number of men stated that they believed all birds, but particu-

larly the pheasants, do more good by eating harmful insects than they do damage by picking into tomatoes."

A second table forming part of the report computes the cash loss per ton for each type of tomato damage. It is significant that although the survey was made because of complaints of extensive tomato damage by pheasants, the results of the survey showed that the damage caused by rot, sun scald, insects and culling were all in excess of the damage by birds. Of all the tomatoes counted, the average loss from rot was 33 cents per ton, while that from birds was but 3 cents per ton.

The important figures, however, are the losses per ton of the ripened fruit. The table shows the loss from rot in this class was \$3.16 per ton compared to a figure of \$0.22 for birds of all species.

Concluding the report we find this summary: "Since the study was made during the latter part of the growing season, when the greatest damage might be expected, the survey would seem clearly to indicate that birds do not cause excessive damage to tomatoes grown for wholesale canning purposes. Although the investigation was inaugurated to determine the damage caused by ringneck pheasants, the difficulty encountered in attempting to segregate the losses caused by the various species of birds has made it unwise to attempt to compute an accurate figure for pheasants alone. . . .

"Tomatoes, as a commercial crop, are on the increase in Pennsylvania. Thus, a study of expected losses is of particular importance. The completion of this survey should definitely determine the status of the ringneck pheasant with respect to annual damages to this and other crops."

Tracing the Movement of Pheasants

Many farmers who take delight in feeding the pheasants which come around the farmyard seeking food during the winter months, when most other supplies have failed, are distressed when one fine day they discover the birds have failed to return, and for some time they probably see them no more. Under such circumstances the first reaction is to blame their disappearance on the poacher. "These blankety-blank hunters" they are wont to erupt, "come around here and shoot everything they see." Indignation against the poacher is quite justified, and the more the public express their resentment against the lawbreaker the better pleased we become. However, while the poacher may have practised his wiles against the farmer's adopted brood of pheasants, to blame him for their disappearance is not always warranted. It is natural that as conditions improve the pheasant should move away to a new environment where natural food, perhaps, is available and cover more abundant.

Then, too, wild bird life, except during the nesting season, is seldom still very long. To migrate, no matter how short the distance, is the essence of life. The call of the wild is not a call to permanency, but rather an inherent urge to be on the move in search of food and to satisfy the instincts of Nature. The pheasant is not a migratory bird, but within reasonable limits his home is the great outdoors and not any particular farm section thereof. Therefore, when they leave the barnyard or the grain field suddenly it must not be too hastily assumed that they have been destroyed.



Pheasants enjoying the farmer's bounty.

Last year some sixty-five townships were stocked with a total of over 30,000 pheasants, and the question frequently arises as to whether or not the birds will remain within reasonable distance of where they were released. In other words, what proportion of the birds released in any township may reasonably be expected to be taken by the sportsman within the township in which they were released? The following from "Outdoor Life", while not conclusive, sheds some light on the matter:

"The farmer or sportsman who releases a pheasant on land where food and cover conditions are favourable stands a good chance of bagging that same bird during the following season. This fact develops from a study of nearly 5,000 birds which were banded by the Wisconsin Conservation Commission, and shot by hunters.

"While some birds made extended migrations, 2.8 per cent were bagged in the same section where stocked; 16.2 per cent within a one to five-mile radius, 3.8 per cent within a six to ten-mile radius, and 13.2 per cent in the same township. Altogether, a total of 36 per cent of the pheasants were bagged in the same township where they were originally released."

Rearing Maskinonge in a Protected Area

By Paul F. Elson

It has been the experience of fish culturists, in the past, that while maskinonge fry can be hatched out quite satisfactorily the difficulties and expense involved in carrying them through to a more advanced stage have been almost prohibitive. It is a generally accepted principle that the larger the fish planted the more satisfactory will be the resulting yield. One of the experiments carried on by the Game and Fisheries Department of Ontario during the summer of 1939 was an attempt to raise maskinonge

to an advanced stage in a selected natural area where the fish would, as far as possible, be protected from enemies and have good opportunity for growth.

The area selected was a marshy bay, about ten acres in extent, which was closed off from other waters by barriers across the two ends, which were respectively 50 feet and 150 feet wide. Screens were placed in the barriers to allow circulation of water. The water was from three to five feet deep. The bottom was deep muck, permitting a rich growth of weeds. The area is a natural spawning ground for maskinonge and hence should be suitable for raising these fish. Compared with all other areas examined it was relatively free from snags and obstructions.

When the area had been closed off coarse fish and other possible predators of the maskinonge were netted out. Minnows which would provide food for the maskinonge were not removed from the area. There was an abundant supply of these.

On June 4th, 100,000 maskinonge fry, about three weeks old and approximately $\frac{5}{8}$ of an inch long, were planted throughout the area in locations where natural food was most abundant. At this time the maskinonge were observed to be feeding on small aquatic animals, water fleas, etc. These little crustacea were present in vast swarms about the patches of cat-tail and marsh grass. About the middle of June the maskinonge commenced to feed on minnow fry, of which there was an abundant supply naturally spawned in the area.

During the summer, observations were made on the habits and growth of the maskinonge whenever opportunity offered. One observation of particular significance was, that for two weeks while commencing to live on a diet of minnow fry the maskinonge crippled at least half a dozen minnows for every one eaten. They would not attack crippled minnows. Hence a very large supply of minnow fry is necessary at this time. As the maskinonge grow in size the minnow fry also grow, so that they provide a constant supply of food throughout the remainder of the year.

Growth of the young maskinonge under the natural conditions was truly remarkable, as is indicated by the following figures:

Approximate length of young Maskinonge on date indicated (inches): June 6, $\frac{5}{8}$ -inches; July 5, 3-5 inches; Aug. 1, 4-7 inches; Sept. 1, 6-8 inches; Oct. 1, 7-9 inches; Nov. 1, 8-11 $\frac{1}{2}$ inches.

Seventeen fish taken in November averaged between 9 $\frac{1}{2}$ and 10 inches in length. Since, as is well known, the weight of the fish increases over three times as fast as the length, it will be seen that November fish are twice as long and nearly six times as large as July fish.

During the season eighty-one advanced fingerlings were recovered from the 100,000 fry planted. This is roughly at the rate of one advanced fingerling for every 1,000 fry planted, which is probably considerably better than could be expected under unprotected conditions. However, too much significance should not be attached to this figure for two reasons. In the first place we feel quite confident that by no means all of the fish were recovered when the experiment was brought to a close.

From the number of fish taken the first three days in November, with but one setting of nets, it seems quite likely that at best not more than half of the fingerlings in the area were recovered. To counterbalance this it is unquestionable that some natural spawn was deposited in the area before it was closed off from the lake. Several times adult maskinonge were observed performing spawning motions in the area.

Again, it is altogether probable that the production of maskinonge fingerlings was not what it would have been under more ideal conditions because only a fraction of the predators had been removed when the fry were planted, in spite of heavy netting. The following figures indicate the conditions.

A total of some 5,987 coarse or predatory fish were removed previous to planting the fry. This included 380 catfish, 4,762 sunfish, 467 rock bass, 320 large-mouthed bass, and some small-mouthed bass, perch, suckers and maskinonge. In addition 256 turtles comprising four different species were destroyed.

By the end of the season the numbers of such fish removed amounted to 17,883, and the total of turtles destroyed was 563.

By November the maskinonge have little to fear from any of these predators, due to their great increase in size, whereas in July they would still be subject to attacks by such fish as perch, black bass, etc.

One difficulty in raising the fish by the method indicated is in recovering them for subsequent planting. Seining in such marshy areas, where snags are difficult to eliminate and weeds interfere with netting, is impractical. It is certain that at some time before the next year's spawning they must leave the area, since only three yearling fish were taken during the entire summer. In November there were still maskinonge "fingerlings" in the weedy parts of the area.

There is still much to be learned of the life history of the maskinonge during the first year. Much of this information which is lacking would undoubtedly be of great value in determining cultural practices for the fish. Nevertheless, what seems a very promising method of culture is suggested by the past season's experiment.

Hatchery Production of Maskinonge

While the experiment to determine the possibility of raising maskinonge to "fingerling" size, under more or less natural conditions, was being conducted at Stony Lake, an experiment of the same sort under different conditions was carried on at the Deer Lake Hatchery in Peterboro County. It was an attempt to determine the practicability of raising maskinonge to the fingerling stage under hatchery conditions and in such quantities as to justify the labour and expense involved. At the hatchery a rearing pond entirely free from other species of fish or predators was used, and maskinonge fry introduced thereto. In an adjoining pond minnows were raised to supply food for the voracious muskies, and as both ponds were connected the food supply could be regulated.

The chief difficulty has always been the problem of food, for, unlike trout, which thrive on a diet of liver, etc., maskinonge demand live food

in considerable quantities, and if the supply of fodder fish does not meet the demand, they develop cannibalistic tendencies which rapidly deplete their numbers. As the maskinonge grows its appetite increases, necessitating an ever-increasing number of food fish.

In view of the difficulties involved and the fact that the raising of maskinonge to the fingerling stage has heretofore presented fish culturists with almost unsurmountable difficulties—economic and biological—it is considered quite satisfactory that during the first year some 1,300 advanced fingerlings were successfully raised in this manner and duly planted in suitable waters.

In addition to the fingerlings mentioned above some 2,795,000 muskie fry were also planted in various waters throughout the Province.

A Fine Record

Because of the tremendous increase in the numbers of anglers during the past quarter of a century and the intensity with which fresh water fishermen comb the lakes and streams where game fish are to be found, the possibilities of developing record size fish or smashing previous records are limited. For this reason many records have remained stationary for years, and it looks as if a number of them would never be disturbed. It was back in 1916, for example, that Ontario annexed the world's record for brook trout: a beautiful specimen weighing 14½ pounds, caught in the Nipigon, while Scotland boasts the largest brown trout, a 39½ pounder taken in 1866. The record rainbow trout, weighing 26½ pounds, was caught in Washington in 1914. Other record freshwater fish belong to the past decade, and have changed from time to time.

We have just read with interest the results of the contest sponsored by "Field & Stream", during the 1939 season. Introducing the subject, the editor states, "During the twenty-nine years of its existence, the Field & Stream nation-wide Contest has long since arrived at such a position that it attracts the cream of the crop of game fish caught by sporting methods each season. Thus it gives us a source of information on these giant fish that would not otherwise be available.

"Statistically speaking, one of the most interesting phases of this year's contest is the distribution of the prize-winners. As usual, the Province of Ontario led the list by taking a total of twenty-five per cent of the prizes offered. The State of Wisconsin came next with fifteen per cent, closely followed by New York State with twelve per cent."

The most outstanding feature of the contest was the fact that, during the season the world's record for maskinonge was broken three different times. The previous world's record maskinonge weighed 58¼ pounds and was caught in Lake of the Woods, Ontario, in 1932. On June 29 last year this record was first broken when a monster weighing 58 pounds 14 ounces was taken from Lake St. Clair, Michigan. Almost a month later the record was broken a second time when a 59½ pounder was caught in a Wisconsin lake. Ontario's reputation as the banner musky province appeared to have gone by the board, but it was only a temporary set-back. On October 3, 1939, an American visitor fishing in Eagle Lake in the Kenora District, had

the thrill of his life when a gargantuan specimen struck his lure and streaked away to begin a gruelling fight for liberty. In due course the fish was safely landed and was immediately rushed to the village by the thrilled and excited angler and his companion to be weighed. It turned the scales at 60 pounds 8 ounces, measured 58½ inches in length and 31½ inches in girth. Thus for the third time in one season the world record for maskinonge was broken, but the honour still remained with Ontario.



World's Record Maskinonge, 60 pounds 8 ounces.

It is interesting to note that of the ten prizes offered by "Field & Stream" in the maskinonge class, seven of them, including the first prize, were awarded for fish caught in Ontario. The smallest of these weighed 45 pounds 2 ounces.

The same percentage of wins was recorded in the Lake Trout division, seven out of the ten having been taken from Ontario waters. These included the winner, a 44-pound specimen, the others following a gradually descending scale to 34 pounds, 6 ounces.

The Nipigon still holds its pride of place as the most famous of trout waters. Four of the prize-winners, including the first two, were Ontario fish, all of them taken from the Nipigon.

In the Small-mouth Black Bass class two Ontario fish were placed among the winners and weighed respectively 7 pounds 3 ounces, and 7 pounds. The first two winners appear to have been enormous specimens weighing 9 pounds, 1 ounce and 8 pounds respectively.

Three of the ten Great Northern Pike winners bore Ontario labels, the largest weighing 35 pounds 2 ounces and taking second place.

Two prizes were taken by Ontario pickerel weighing 13 pounds 2 ounces and 12 pounds 12 ounces respectively.

For the information of anglers we append a summary of the Ontario prize winners in the various classes, together with the weights and the waters from which the fish were taken.

<i>Species</i>	<i>Prize</i>	<i>Weight</i>	<i>Where Caught</i>
Brook Trout	1st	8 lbs. 5 oz.	Lake Nipigon
" "	2nd	7 lbs. 8½ oz.	Nipigon River
" "	6th	6 lbs. 12 oz.	Nipigon River
" "	10th	6 lbs. 8 oz.	Nipigon River
Lake Trout	1st	44 lbs.	Lake of the Woods
" "	2nd	42 lbs.	Orangutang Lake
" "	5th	35 lbs. 8 oz.	Eagle Lake
" "	6th	35 lbs.	Meadford
" "	7th	35 lbs.	Buzzard Lake
" "	8th	35 lbs.	Big Cannon Lake
" "	10th	34 lbs. 6 oz.	Crow Lake
Small-mouth Bass	6th	7 lbs. 3 oz.	Coboconk
" " "	9th	7 lbs.	Maple Lake
Muskalonge	1st	60 lbs. 8 oz.	Eagle Lake
"	5th	47 lbs. 9 oz.	Eagle Lake
"	6th	47 lbs.	Eagle Lake
"	7th	46 lbs. 9 oz.	Lake Rowan
"	8th	46 lbs.	Lake Nipissing
"	9th	45 lbs. 7 oz.	Cavier
"	10th	45 lbs. 2 oz.	Quill Lake
Great Northern Pike	2nd	35 lbs. 2 oz.	Lake Nipigon
" " "	5th	32 lbs. 2 oz.	Eagle Lake
" " "	9th	27 lbs. 12 oz.	Batchewana Bay
Wall Eyed Pike (Pickerel)	5th	13 lbs. 2 oz.	Baptiste Lake
" " " "	8th	12 lbs. 12 oz.	Wahnapietae Lake

The Groundhog

"No longer is the lowly woodchuck considered a pest," says the "Wild-life News". "At least that is true in Pennsylvania. That state recently gave the woodchuck (or groundhog) legal protection and established a bag limit for the hunters of *Marmota Monax*. (That is the way he would sign his name if he could write).

This animal has long been a favourite with expert riflemen in settled country. Contrary to popular opinion, the woodchuck is edible, and when young and tender, is a real delicacy."

It is, perhaps, appropriate that we should, at this season of the year, devote some space to the groundhog, for during February he becomes a front page story in most of our newspapers throughout the country. Legend has it that on the second of February he emerges from his winter hibernation to find out if the sun will cast his shadow. Should this occur the fact has something to do with fixing the arrival of Spring. This is another of those interesting natural phenomena which have little substance in fact, like the porcupine shooting its quills or the snake swallowing its young in times of danger, but it serves to remind us that the groundhog does hibernate during the winter, and does not rouse himself permanently until the warm spring weather is assured. However, it is to be noted that the winter sleep of the groundhog is neither as deep nor continuous as that of the bear. The weather appears to have a great deal to do with his activities, for he may emerge from his hole for a brief period during warm winter days, even when there is snow on the ground.

The groundhog is to be found, wherever the habitat is suitable, all over Ontario. It prefers the sparsely-wooded slopes rather than the deep woods, and is very much at home in the open fields.

In form it is usually fat and chunky, with a broad, short head which is apparently set on the shoulders; small eyes and ears, and a rather blunt nose. The legs are short and thick, with four well-developed toes on the forefeet which are very suitable for digging. The hind feet have five toes. The tail is short and bushy and inclined to be flat. The colour varies, but is mostly a reddish brown.

The groundhog is a large rodent and is almost strictly vegetarian. It eats various grasses, clover, vegetables, and probably some grain during certain seasons of the year. It is seldom to be found far from its burrow and is ever on the alert for enemies, particularly man. Even when discovered sitting upright on its hind legs, nibbling gracefully at some appetizing morsel of food, it is quick to notice danger, because it has exceptionally keen vision, and is always wary. As a fighter the groundhog is a spirited combatant, and when cornered will turn savagely, with bared teeth, on its foe. When thus cornered its teeth chatter and it emits a whistling sound, which is responsible for its colloquial name of "Whistling Pig".

The pelt of the groundhog has no value, but the carcass might be used for food a great deal more than it is. Living a simple life it grows fat with age, but when young it is stated to be quite tender and decidedly appetizing. Unfortunately the holes dug by groundhogs throughout the farmers' fields

are a constant source of danger to domestic live stock, and as these animals are fairly prolific breeders they must be constantly kept under control. One reason for the large number of groundhog holes to be found in certain areas is that, as a rule, after the family breaks up, only one remains in the burrow, the remainder pass out to find homes of their own.

"Woodchuck hide," says the news item with which we commenced this article, "makes excellent shoelaces, moccasins, whip-lashes, and similar articles. His greatest value, say officials of the National Wildlife Federation, is his habit of digging weather-proof dens that are used later by rabbits, skunks, raccoons, and other animals. So, the woodchuck does his part to conserve his more valuable fur-bearing brethren."

Banded Tern Creates Submarine Scare

The war is responsible for many scares, real and imaginary, and this is particularly true in the realm of espionage. Many clever devices are employed for conveying information to the enemy, and all sorts of codes are in use to ensure safety. We recall that during the last war it was stated that a well-known sportsman was arrested for communicating with the enemy. It turned out that he had been playing a chess game by means of correspondence and the damning evidence against him was the customary postcard to his opponent advising him of his next move on the chess board. We are reminded of this incident by the following story from an exchange Bulletin:

"Stories of a submarine lurking in nearby waters recently frightened citizens of El Triunfo, San Salvador, in Central America. And it was all caused by a common tern banded in Massachusetts by the Biological Survey. Now El Triunfo residents are relieved that no submarines are in their territorial limits and are much the wiser about bird-banding."

The submarine scare was started by a local paper that featured an article with the headline, 'Are there Nazi Submarines in Salvadorean Waters?' The article in part stated: 'A bird carrying a band with strange markings and ciphers has been found in this country! It is believed that it may be a messenger pigeon from some Nazi submarine in Salvadorean waters.'

Another newspaper, however, corrected these 'scare lines' and pointed out that the tern had been banded by the Biological Survey to study the flight of birds during migration."

Fishing Bears

Probably the majority of people have never seen a bear fishing for salmon. Nevertheless, during the salmon runs, bears in British Columbia put in considerable time fishing along the banks of various small creeks. They are successful, too, in so far as making heavy catches are concerned. As a matter of fact, the clever animals are far too successful, and in more than one stream their depredations deplete the supplies of salmon reserved for spawning to almost the vanishing point.

To combat this evil the Dominion Department of Fisheries has authorized its officers to destroy these salmon marauders when they are encoun-

tered during patrol work in the spawning areas. During 1939 seventy-two bears were killed by two patrolmen and an inspector in the course of their duties on Queen Charlotte Islands. Thirty-nine bears were killed at one point alone.

The animals do the most damage when the fish first start up the creeks. Standing along the banks or in the shallow reaches of the creeks, the bears prove adept fishers as they scoop up the unfortunate salmon with their great paws and toss them to higher ground. More often than not the day's catch is not touched again. The bears, apparently from sheer love of fishing, capture fish far in excess of their immediate food needs.

—*Fisheries News Bulletin.*

Wise and Otherwise

Open seasons on fishing must remain close seasons on waste.

* * *

Fish for the fun of fishing and you will have more fun fishing.

* * *

Legal limits are guide posts *not* targets.

* * *

The angler, whose needs are below the limit set by law and who takes what he needs and not what he may, is demonstrating conservation in a practical way.

* * *

“Angler” is defined, among other things, as “the name of a fish furnished with filamentary appendages, which by their movements attract smaller fish on which it feeds.” How descriptive! Now we know the application of that snappy retort “You poor fish!”

* * *

Conservation must be more than mere conversation; words are a feeble substitute for action.

* * *

Law observance is a prime requisite of good sportsmanship.

* * *

To hunt is to chase, but to hunt without a license is to be chased.

Spring Fever

*When the blue gets back in the skies once more
And the vines grow green 'round the kitchen door,
When the roses bud and the robins come,
I stretch myself and I say: "Ho-hum!
I ought to work but I guess I won't;
Though some want riches today, I don't;
This looks to me like the sort of day
That was made to idle and dream away."*

*When the sun is high and the air just right,
With the trees all blossomy, pink and white,
And the grass, as soft as a feather bed
With the white clouds drifting just overhead,
I stretch and yawn like a schoolboy then,
And turn away from the walks of men
And tell myself in a shamefaced way:
"I'm going to play hookey from work today!"*

*"Here is a morning too rare to miss,
And what is gold to a day like this,
And what is fame to the things I'll see
Through the lattice-work of a fine old tree?
There is work to do, but the work can wait;
There are goals to reach, there are foes to hate,
There are hurtful things which the smart might say,
But nothing like that shall spoil today."*

*"Today I'll turn from the noisy town
And just put all of my burdens down;
I'll quit the world and its common sense,
And the things men think are of consequence,
To chum with birds and the friendly trees
And try to fathom their mysteries;
For here is a day which looks to be
The kind I can fritter away on me."*

—EDGAR A. GUEST.



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

May and June
1940

HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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DRESIDENT THEODORE ROOSEVELT was an outdoor enthusiast and a hunter of national repute. He was keenly interested in wild-life and during his regime did much to direct public attention to the urgent need for the conservation of his country's natural resources. The following grave and prophetic warning by the late President seems dramatically à propos at the present time:

"Let us remember that the conservation of our national resources, though the gravest problem of today, is yet but part of another and greater problem to which this nation is not yet awake, but to which it will awake in time and with which it must grapple if it is to live—the problem of national efficiency, the patriotic duty of ensuring the safety and continuance of the nation."

Canada is today facing the greatest problem of her existence, and the flower of our young manhood may even at the moment be grappling with a foreign foe to "ensure the safety and continuance of the nation". The success of their efforts will depend upon the manner in which we tackle the related problems comprising national efficiency—the co-ordination and correlation of all our resources to the vital purpose of seeing that our troops are fully and completely equipped to meet any emergency, and that the Allies lack nothing which it is within our power to furnish.

Natural resources are a very important part of our national resources and are the basis upon which our economic stability is built. National efficiency embraces the best possible use of every available and necessary resource; therefore we do not hesitate to urge, at the cost of repeating ourselves, the wise and proper use of our wildlife resources as an important phase of our war effort.

Elsewhere in this issue we have tried to evaluate the economic worth of our fish and game in relation to the tourist traffic, and have attempted to show what this great international trade means to us in the matter of helping to provide foreign exchange, without which war purchases become difficult.

It is not yet vouchsafed to many of us to know just what part we may ultimately have to play to ensure national efficiency and the safety of the Empire, but in the meantime, and as a patriotic duty, we can all actively participate in the minor problem of conservation, so that the major problem of national defence may not suffer from even one leak in the effective use and administration of all our national resources.

Guiding the Boy

Schools are about to close down once more for the summer holidays and countless thousands of boys and girls will soon be enjoying the freedom of lake and beach. This annual exodus from town to country, from the sweltering heat of the city canyons to the cool and invigorating freedom of Nature's playground, is a progressive, health-giving phase of our social life for which our country is well adapted. Part of the seasonal enjoyment of the summer camp is the thrill of fishing, and from almost every dock or other suitable point of vantage you will find care-free youngsters engrossed in catching, or attempting to catch, fish. Given the opportunity, it is natural that every boy should want to fish. His instincts are primitive and his spirit of adventure a predominating characteristic. These phases of his mental and physical make-up receive full scope in the out-of-doors and fishing is a great adventure.

Some of these boys are fairly experienced anglers, despite their youth. By that we do not mean that they are proficient in fly or bait casting, or skilled in the refinements of the art, but rather that they have absorbed a certain amount of knowledge concerning the more common species of fish, are able to distinguish many of them, and have a passing knowledge concerning the regulations governing the sport. Where this situation exists it will usually be found that "Dad" is a good sportsman who has taken pains to instruct his boy and direct his energies along proper lines. This cannot be done at long range. It requires that intimate companionship which should exist between father and son. It can best be demonstrated by practical application, which means taking the boy fishing whenever possible, and impressing upon him through personal conduct the ethics which good sportsmanship implies.

On the other hand, if you were to visit the dock where that happy band of youngsters may be seen, balanced precariously on the edge, fishing intently with makeshift poles and crude tackle of all kinds, and inspect the catch spread proudly beside them, you would probably find, among other species, a few undersized bass. If enquiries were made in a casual way you would likely discover also that to the proud fisherman they were just fish, and if, perchance, he could name them correctly, it is unlikely that he would be aware that they were of illegal size. Maybe he is enthusiastic about a big one which he has successfully landed and can name it as a bass, but if you suggest the season for bass is not yet open he will probably look at you askance and enquire "What season?" Size limits, creel limits, and seasons, are regulations which are known but vaguely, if at all, by many of the youngsters who annually and in increasing numbers add to the growing army of fishermen. To the casual reader the matter of the boy and his little fish may be relatively unimportant, but when the combined toll of thousands of other boys, equally innocent but just as destructive, is added up, it presents a picture of waste which is a real threat to the conservation drive for better fishing.

We can hardly blame these youngsters if, through lack of knowledge of the various species of fish and the regulations which govern their taking, they unwittingly break the law. The fault lies with us—their adults—and not with them. Nevertheless, the problem is there, and it is not relieved

by merely transferring the blame. We have referred to the fact that many boys have acquired the necessary knowledge through parental instruction, and this phase of the boy's outdoor education should not be overlooked. It is a matter of moral training as well as legal requirements, therefore the responsibility cannot be shelved.

Happily the public today is more conservation-minded than ever before, and the problem of educating the boy along these lines is receiving considerable attention. Many groups of organized sportsmen have formed junior auxiliaries or have extended their membership to include boy scouts and other junior organizations. In addition they have conducted special campaigns on wildlife education in public and high schools throughout their districts. A special text book is being prepared covering all phases of conservation, and will, we understand, be available for school study. The school seems to be the logical place to inculcate in the minds of the future anglers and hunters the value of our fish and game resources and the regulations which the need to conserve them have made imperative, and we are happy to say that more and more attention is being given to this important matter.

For the practical application of this phase of the boy's education the best classrooms are the lakes and streams. Here the individual sportsman may, with profit to himself and benefit to future sport, assume the role of counsellor and teacher. Many opportunities will arise for direct or casual association with these youthful fishermen; for quiet words of advice where such seem necessary; for information concerning species; for demonstrations of sporting ethics and for checking on catch and pointing out irregularities therein. The sportsman who approaches these fishing youngsters in the proper spirit will invariably find an appreciative audience, for the boy is eager to differentiate between right and wrong and an appeal to his sense of sportsmanship seldom fails.

Education and instruction along the lines mentioned are not just temporary expedients, they are attempts to ensure for the boy an endowment of healthy recreation through his own personal contribution of wisdom and restraint. Our natural resources of fish and game came to us as a heritage, to be passed on as a bequest to future generations. To properly enjoy and make the most of our life interest requires the co-operation of young and old. It is sometimes difficult to change the mental outlook of mature minds, but the youthful mind is receptive and will respond to proper direction. Our responsibility as sportsmen and citizens is obvious.

* * * * *

An investment in the ethics of sportsmanship will pay big dividends in citizenship.

The Rainbow Trout

Two more or less related species of Rainbow Trout are being cultured by the Department for re-stocking purposes; they are the Steelhead and the Kamloops Trout. Both are natives of the Pacific coast, the former being found in the streams of California, the latter in the tributary waters of the Fraser and Columbia Rivers in British Columbia. Let us first discuss the Steelhead.

The angler who is interested in the history of his fish should not allow himself to become confused by the various scientific names by which related species of rainbow trout are known to the ichthyologists. Among these gentlemen there are many schools of thought, each preferring its own nomenclature and frequently splitting hairs for technical accuracy. So far as the angler is concerned the sporting qualities of the fish are what count, and he has ignored any variations in colour or slight anatomical differences between one species and another and classified them all as "Rainbow", whether they hailed originally from the McCloud River or the Klamath River, or are a cross of both with a variety of other species mixed in for good measure. The eastern rainbow is just such a product as we have suggested, but this has not detracted from its importance as a hard-fighting, gamey fish. For our purpose the Steelhead, the Rainbow and *Salmo irideus* are one and the same fish.

Perhaps the chief characteristic of the Rainbow Trout is its colour variety. According to an article by Edric O. Synder in "California Fish and Game", "It exhibits three phases or variations of colour while living in fresh water. The first of these may be called seasonal variation. It comes upon the fish as they approach maturity. The bright colours, particularly on the sides, becomes greatly intensified, whereas the background becomes darkened. The second is referred to as local variation. Fish found in deep pools or in dark or densely shaded water are invariably more sombre in appearance than those found elsewhere. In boggy streams they often become a very dark brown-black, the colour even extending to the ventral surfaces. In streams where the water is bright and sunny, and where the fish are exposed to much light, they generally are much lighter in colour. Here the upper surfaces have a great deal of yellow, and the belly is light and silvery. The third is called the geographic variation. Many observers, particularly sportsmen, speak of very noticeable varietal characteristics that are nearly always based upon colour, but which sometimes take into account body form. This condition appears to be no different from that found in other species of fish as well as in birds, and in mammals of wide distribution, particularly in the West."

Despite these colour variations the angler should have no difficulty in distinguishing the Rainbow from either the Brown or the Brook Trout. It has none of the red spots of the latter on its sides, but instead is freely sprinkled with black spots in varying numbers. As an added distinction, however, it has a purplish-red band extending from its gill cover along its side to its tail.

The Rainbow is a migratory fish, and because of this fact the angler is often disappointed when he fails to find them in a stream known to have been stocked with the species. Half a century ago it was generally believed by anglers and many ichthyologists that there were two distinct species in the Pacific coastal streams, viz., the "Steelhead" and the "Rainbow". "It has now been established beyond doubt," said the writer already quoted, "that both the so-called Steelhead and Rainbow are members of the same species, the Steelhead being the adult individual which has lived for a time in the ocean, whereas the Rainbow is the stream fish which has not yet migrated to the sea." This probably accounts for the fact that fish planted

in the smaller streams very soon make their way to the larger bodies of water, and only return upstream for spawning purposes. As a matter of fact there is still considerable difference of opinion as to the environmental requirements of Rainbow Trout, because experience has shown that in many of the Eastern States and in Ontario, Rainbows planted in what appeared to be suitable streams have entirely disappeared, while in other cases fish are planted regularly in certain streams of a more or less similar nature and provide good fishing. Kendall remarks, "No adequate explanation for the vagaries, idiosyncrasies or uncertainties of Rainbow Trout——has ever been offered." It may be that differences in the habits of Rainbow Trout and in the results of stocking waters with them are attributable to the fact, previously indicated, that at least three different species have been introduced in the east under the name of "Rainbow Trout".

In Ontario we have probably had Rainbow Trout of the various species introduced in our streams, but in many of the streams flowing into Lakes Superior and Huron the Steelhead is found.

The artificial culture of the Rainbow presents no more difficulties than that of the Speckled Trout but, because of the natural instincts of the fish which introduces some uncertainty as to results of planting, it is unlikely that the rainbow will ever replace the native trout as a stream fish. Last year some 109,635 fingerling and 24,154 yearling and adult fish were planted in known Rainbow waters in the Province of Ontario.

The Rainbow is a fine sporting fish. It takes a fly readily and puts up quite a fight when hooked, often leaping from the water in an effort to throw the hook. Because of the vim of its initial struggle it appears to tire more quickly than the speckled trout.

Kamloops Trout

The Kamloops Trout, as already mentioned, occurs in a number of lakes in the dry belt of British Columbia. It is a very interesting trout of large size, slender in form and graceful in appearance and movement. It resembles its close relative the Steelhead, but it is reported that it does not show the same tendency to descend to the sea, preferring to remain permanently in fresh water. It is one of the most popular game-fishes of the interior waters of British Columbia, and may be taken on a fly or by trolling. Waters suitable for Speckled Trout are also considered suitable for this Canadian Rainbow.

The first planting of Kamloops Trout was made in Ontario during 1935 in a few specially chosen waters, and while the work is still in an experimental stage, the results will be watched with interest. Last year 105,000 fingerlings were released in suitable waters.

The Tourist Business

One of the important factors in connection with a nation at war is its ability to continue its trade with foreign countries so that its supplies of food and war materials may be maintained. Ability to purchase will depend in large measure upon its facilities for export, because if the balance of trade

is one-sided credits soon become exhausted. The present struggle, with its mass production of war materials, has made it more necessary than ever that our economic position with relation to the United States should be strengthened at every angle as a means of ensuring suitable credits for the purchase of war essentials through the provision of adequate foreign exchange.

We do not pretend to be qualified to offer advice in matters of international finance, but one phase of the subject comes within the scope of the Bulletin and merits attention. In his annual report issued a few weeks ago the President of the Royal Bank of Canada said: "It seems to me also that the war affords Canada an unique opportunity to develop further its tourist trade. Obviously, under existing conditions, travel to Europe will practically cease. It therefore behooves our governing bodies, both Federal and Provincial, to bring the unquestioned attractions of Canada as prominently as possible to the attention of prospective visitors from the United States with special emphasis upon the fact that such visitors will find in Canada practically none of the restrictions usually associated with a country at war. In normal years, tourists spend as much as \$250 to \$300 million in Canada. This trade is thus an important factor in our international balance of payments. As a means of strengthening our economy and providing foreign exchange, our efforts to attract tourists should be redoubled."

We believe the various publicity bureaus sponsored by the different departments of government, and all those directly interested in the tourist business, are conscious of the opportunity which is presented, and have been redoubling their efforts to take advantage of the situation. Most of the advertising is, of course, the lure of the great out-of-doors. Few summer visitors are interested in our historic landmarks, our legislative assemblies, or our halls of learning. They demand relaxation rather than education—although a visit to a foreign country may readily combine both. The congestion of city life and the pace of modern civilization are the increasing causes of physical and mental breakdowns. To counteract these the human body requires rest and the opportunity to play. Canada is the finest natural playground in the world, therefore our advertising stresses our lakes and streams, our virgin forests and national parks, but particularly emphasizes the splendid fishing and hunting which is available.

When it comes to fishing and hunting the Province of Ontario occupies an enviable place among the other Provinces. We not only have been bountifully supplied with wildlife natural resources, but we early recognized the value of these resources, and over a long period of years have sought to afford them protection, and through natural and artificial means of production have endeavoured to maintain a supply equal to the demand. It is not entirely by accident therefore, that the Province is known as a fisherman's paradise.

It will readily be admitted that the greatest lure to relaxation in the out-of-doors is the opportunity to fish, particularly where transportation facilities are good, and most of the comforts of home readily available. The fishing environment is wholesome, and in such an atmosphere the worries of business and the conventions of social life are readily forgotten, there-

fore we stress the fishing possibilities of the Province and all that such a vacation implies.

The tourist trade, then, is firmly bound up with our fish and game resources, and these resources, therefore, assume a new importance in carrying on the war. Probably few of us have ever given much consideration to the thought that our fish and game were factors to be taken into account in our war effort. Their industrial and food value are, of course, obvious, but their economic worth as tourist attractions is, under present conditions, of even greater value. As a means of strengthening our economy and providing foreign exchange, our efforts to attract tourists should be redoubled. And by the same process of reasoning it may be added that our efforts to protect our stock-in-trade from waste and misuse becomes more than ever an individual as well as a collective duty.

The value of the tourist trade to the Dominion has always been stressed; let us consider briefly what it means to the Province of Ontario. It has been demonstrated statistically that this Province receives about sixty per cent of the nation's tourist business from the United States. What this really means is best illustrated by a few figures. In 1938, which is the last year for which figures are available, the total value of all Field Crops in the Province amounted to \$127,810,000. It is estimated that the tourist traffic from across the border during the same year was about \$125,000,000. The Province's gold production for the same period was \$101,916,080, and was easily surpassed by the revenue from tourists, while the Province's dairy production, amounting to \$89,153,400, was not in the same class.

The tremendous importance of such a business is quite apparent; it becomes more so when it is recalled that it is not a localized industry, but that every man, woman and child benefits therefrom, either directly or indirectly. Says the Canadian National Parks Association Bulletin: "Could the tourist trade be controlled and exploited by a company or corporation, their shareholders would enjoy dividends beyond the dreams of avarice. We are all shareholders in the profits of the tourist trade, which can never become a monopoly."

We have stressed the value of our fish and game resources in connection with the tourist business in order to link them up with our war effort, and to emphasize the fact that the protection and proper use of a public heritage of such value should be the responsibility of every citizen. More than ever before we must guard these resources from the depredations of the poacher and the lawbreaker, for we dare not passively countenance anything which will weaken our economic position or limit our National effort.

It only remains to add that the sportsman has a part to play in the campaign to increase the tourist business. It is his duty as a loyal citizen to do whatever may be in his power to supplement the official invitations which have been given, and to boost the holiday attractions of the country, particularly stressing the recreational possibilities of field and stream. Realizing that our fish and game resources are magnets of tremendous drawing power it becomes more than ever necessary to maintain and conserve the supply. The part of the sportsman is to stop the leaks occasioned by illegal destruction and co-operate to prevent waste through excessive taking,

even within legal limits. In normal times these are wise precautions, even in the interest of the sportsman and his sport; in times of emergency they become a National duty. Do not let us minimize the value of our wildlife heritage as a factor in winning the war. A resource which is capable of providing huge quantities of food, and assisting in large measure to "strengthen our economy" and provide foreign exchange through its drawing power as a tourist attraction, is an asset of inestimable value.

* * * * *

"The conservation of our natural resources and their proper use constitutes the fundamental problem which underlies every other problem of our national life."—*President Roosevelt*.

Hints on Handling Minnows

"More bait minnows die from careless handling and disease than are used in actual fishing," says an authority on fish culture. It is a common experience for the angler who has supplied himself with live minnows for bait to find that before he has reached the fishing grounds many of the minnows have died. This situation is often quite puzzling, not to say annoying. A relatively short time before, the fish were probably quite lively, and there is seldom any scarcity of water in the pail. However, there are several conditions which govern the keeping of fish in confinement, which if not complied with will result in losses.

The first precaution, if the minnows are to be kept alive is, do not crowd them in the container. Better to arrive at your destination with a few lively fish than a bunch of dead ones. A large minnow bucket, too, is better than a small one, and it should be kept scrupulously clean.

The fish must be handled as little as possible and with extreme care. This applies generally in connection with captured fish which it is desired to retain or release alive.

As a further precaution the water in the bucket should be activated at frequent intervals. This may be done in several ways, but a most effective and convenient method is to dip up some of the water from the container and pour it back in again. This process should be repeated quite a number of times, and has the effect of aerating the water and stimulating the life within through releasing oxygen, which is vital to all life. The same effect may be produced by pumping air into the water from a bicycle pump.

In the work of re-stocking the waters of the Province the Department yearly transports millions of fish over long distances with comparatively few losses. One of the precautions taken is to furnish each container with a block of ice, which slowly melts and keeps the water at a low temperature. When transporting minnows on a warm day the addition of a piece of ice to the water will lower the temperature and provide more normal conditions for the fish. Water at low temperature requires less activation, and is therefore more suitable for carrying fish in the confinement of a minnow pail. The frequent addition of fresh water by pouring, will also serve to keep the water in the bucket cool and aerated.

With proper attention there should be but little loss with any of the desirable minnows; most of them are hardy and will do well in confinement.

It is important to remember that the young of all commercial and game fish must not be included in the contents of the minnow pail.

First Results From the Closure of Redrock Lake

F. E. J. Fry

In 1937, the second season in which the Algonquin Park highway made Opeongo and the neighbouring lakes accessible by car, it became apparent that the speckled trout in Redrock Lake were in serious danger of depletion. The creel census records showed that the number of fish taken per unit effort had dropped to one-half of the number taken in the same effort in the previous year. In particular there was a scarcity of fish large enough to make the mile portage and the stiff climb worthwhile.

Because of the seriousness of the situation, immediate steps were taken to check the deterioration of the fishing in this popular lake. The method of conservation chosen was that of closing the lake every second year. Such practice allows the fish to reach a more desirable size before they are captured, and what is more important, allows fish like the trout, which require a whole year in which to mature their eggs, a season free of molestation every second year, and thus greatly increases spawning.

Redrock Lake, then, was closed in 1938 and re-opened in 1939. The effect of closure was a striking improvement in the speckled trout fishing. Taking into consideration the size of the fish taken and the time required to capture them, fishing in Redrock Lake in 1937 was only about one-third as good as it had been in 1936. Closing the lake in 1938 made the fishing in 1939 better than it had been even in 1936, and about four times as good as it had been in 1937.

The average length of the speckled trout captured in 1937 was only 11.1 inches. In 1939 it was 12.6 inches, and the average weight per fish captured rose from 8.6 to 12.3 ounces. More than half of the speckled trout taken from Redrock in 1939 were thirteen inches and longer, while only one-quarter of those taken in 1937 were as large as this. The number reported captured in 1939 was 631, in contrast with 398 reported in 1937. Due to the larger size of those taken in 1939 the total poundage taken more than doubled; it was 214 pounds in 1937 and 485 pounds in 1939. The number captured per 100 boat-hours rose from 81 to 174.

As well as allowing the fish an opportunity to reach a more desirable size before they were captured, the closure in 1938 made possible a very material increase in the amount of spawn deposited in Redrock Lake in that year. The 398 fish reported taken in 1937 had contributed only about 93,000 eggs in the spawning season of 1936. This estimate was calculated from data on the number of eggs produced by speckled trout of different sizes (Ricker 1932) and by assuming 50 per cent. of the fish were females. The 631 fish reported in 1939 are estimated to have deposited 340,000 eggs in the autumn of 1938, or about four times as many.

The Muskrat

As we write, the muskrat season generally is well under way throughout the Province. The trapper is familiar with the fact that the opening dates are difficult to determine much in advance because trapping depends upon the breakup in the marsh areas. There would be little use in prescribing an open season if the trapping grounds were still frozen up and the muskrats were unable to move freely. For this reason, and in the interest of the trapper, the seasons vary somewhat, but those most interested are usually ready to take advantage of the opportunity even at short notice.

The muskrat takes first place among the fur bearers of North America in regard to the number of pelts marketed and the total value of such pelts. This premier position is easy to understand when it is noted that in Maryland alone the annual revenue from muskrat pelts exceeds \$2,500,000. In the Province of Ontario some 508,893 pelts were taken last year, and the prospects for this season are equally good.

The Ontario muskrat is what is known as the common muskrat (*Fiber Zibethicus*). It is found all over the Province; indeed, it is common throughout North America. There are two other species known as the Newfoundland muskrat and the Louisiana muskrat. These three species are all closely related, and they in turn have no close relations in other living species. The common muskrat varies considerably in different sections of the continent, principally as to size and colour. For example, the Maryland muskrat, of which mention has been made, and which, by the way, is known as the Virginia muskrat, is the largest of the common species. It is about twice the size of the Ontario muskrat, having a length of over 23 inches from nose to tip of tail, with a corresponding difference in weight. It also has two colour phases, black and brown.

The general characteristics of the common muskrat found in Ontario are too well known to require much in the way of detail. It may be seen at almost any time during spring or summer in most marshes, lazy streams or shallow, muddy lakes. The upper part of the body is dark brown in colour with a reddish tinge on the neck and legs, while the belly is ashy gray. The hind feet are partly webbed, while the front feet are small, with no particular adaptation for swimming. As with the squirrel and the coon, the front feet are used as hands in dealing with food.

The muskrat has two general types of homes. In open marshes it builds a dome-shaped structure of reeds, roots and other vegetation. These houses may have a diameter of seven or eight feet and a height of three to four feet. They usually have a solid foundation or are built around something solid, as a stump, or the base of a tree. The nests inside the house are well above the water level and from each of these passages lead to holes in the floor of the house, and these in turn to underground tunnels which emerge in the open several feet from the house. The interior of the house is quite damp, but is always clean, while the nests are soft and comfortable.



The Muskrat.

Where the banks of the stream are high, or the marshes ditched and banks formed, the muskrat digs a burrow into the bank and makes a home therein. The entrance to these burrows is always below the water level. This fact enables the animal to enter without being seen, and it also protects it against predatory enemies. The burrow turns upwards, of course, and ends in a comfortable nest situated above water level.

Probably because of the fact that they are well equipped for swimming muskrats prefer this mode of locomotion while travelling about the marsh. To enable them to do so they construct a complex canal system covering a wide area of the marsh. These canals range from six inches to a foot in width and may be merely a muddy surface trail or a definite channel a foot or more in depth. The well-travelled channels are always wider and deeper than the temporary off-shoots over which the search for food extends. The system is quite elaborate and entails a great deal of labour.

As previously mentioned, the muskrat is very active during late spring and throughout the summer, and does not confine its activities to daylight hours. If you should happen to surprise it while it is swimming it will immediately upend itself and dive. You may then follow its progress under water by a series of small bubbles which usually mark its course.

The food of the muskrat consists of roots, and most of the aquatic plants found in the marsh. In addition to vegetation it also consumes a certain amount of fish and flesh such as crabs, parts of turtles, and the occasional dead bird.

The muskrat is very prolific, and while there is considerable difference of opinion as to the extent of the breeding season, it has been established that in Ontario two or three litters are born during the season with from three to six or more young to a litter. The young are born blind and are covered with very short fur. They nurse for from two to three weeks, but during that time have begun to nibble at solid food. The first litter will raise a brood of its own before the end of the season.

Muskrat pelts do not bring a high price on the market, but because they can be caught in large numbers the returns to the trapper may be of substantial worth. The fur is used for many purposes, but perhaps the most important use to which it is put is in making the Hudson Seal coats which are so popular with "mi-lady". To do this the fur is put through an extensive process of plucking and dyeing to give it that smooth, silky, lustrous sheen which makes this coat so popular.

The Duck Situation

Sportsmen and Nature lovers have learned to anticipate with a great deal of pleasure the annual exodus of our migratory birds in the autumn and their return once more in the spring. The nimrods are, of course, particularly interested in wildfowl because the southern migration presents the opportunity for excellent sport, while the return flight in the spring is an assurance that the birds have weathered the hazards of the southern flight and sojourn and are once more making for the northern breeding grounds.

The migration of birds over distances of thousands of miles at regular periods is a phenomenon of Nature which never ceases to fire the imagination. The autumn flight from the rigorous climate of the north to the warmer regions of the south over flyways extending from the Arctic to the Equator, and beyond, appears simple of explanation considered from the standpoint of living conditions. Food supply in the northern zones is largely cut off during the winter, and migration is the only way to avoid starvation.

When it comes to reasons for the northern flight in the spring the same explanation is not so obvious. What influences the birds to leave the warmth of the south and a plentiful food supply to return to the north at a time when the temperate regions of the north are still trying to shake off the lingering effects of a hard winter? Is it, perhaps, that spring brings a reawakening of life and approaching summer signalizes an abundance of food? "Originally forced to and fro by hunger," says Tauerter, "the annual movements have become instinctive and take place before the actual hunger pinch is felt."

Assuming that this explains the coming and going of the birds, we are still bewildered when we think of the unerring skill with which they cover long distances over vast expanses of land and water to arrive ultimately at regular feeding and breeding grounds. That they have regular places of call has been demonstrated over and over again by means of tagging, and this in itself is proof of a highly developed sense of direction and keen observation. It is the same instinct which guides the salmon after many years from the depth of the ocean back up the stream in which it was born to reproduce its kind. It is frankly admitted, however, that the migratory flight of birds is still but vaguely understood.

The inspiration for this foreword is a recently issued statement by the Biological Survey that "between 55 and 60 million migratory waterfowl are winging their way northward as the annual spring migrations to the breeding grounds in Alaska, Canada, and northern States get under way". By themselves these figures do not convey much information as to the duck situation except a picture of vast numbers, but when it is added that they

represent an increase of 15 per cent over the northern migration of last spring one realizes the importance of the statement.

In 1935 the migratory waterfowl population of the continent had dwindled to an all-time low of about 30 million. Since then hunting restrictions have been made more severe and an active programme to provide refuges and improved nesting conditions has been carried on both in the United States and Canada. It is said that Ducks Unlimited, an organization formed for the purpose of aiding in the wild-fowl restoration problem has already spent \$225,000 in the prairie provinces of Canada, in an effort to increase the duck population by restoring dried-up areas to water, and thus improving nesting conditions. All these factors have contributed to the increases noted, and if there is no natural set-back should continue to prove effective in materially improving the wildfowl situation.

Large Seizures of Beaver Pelts

Eternal vigilance is the watchword of those charged with the duty of law enforcement, whether it be the criminal law, the civil law or the laws protecting public property such as our wildlife resources. The petty law breaker, the sneak thief, the hardened criminal, all these are a menace to social progress and good government, and must be continually held in check through actual punishment or fear of such. The Game Warden whose job it is to see that the Game and Fisheries Laws are observed belongs in the category of those whose ceaseless watching is a necessary part of our social system. But for his persistent activity the wildlife of the Province would soon suffer severely from the canker of illegal destruction. This fact is brought forcefully to mind by reports of a number of fur seizures, terminating in heavy fines, which have been made by the Department during the past few weeks.

The first important seizure was made at North Bay. The story is more or less a routine one, except that on this occasion the Wardens received valuable assistance from the local police, particularly one Sergeant Michaud. It seems the sergeant was suspicious of the conduct of two men in a car parked in front of the second-hand store of one Lipman Joseph about 1.30 a.m., particularly when he heard one of the men pounding loudly at the door. He approached, found the man who was disturbing the silence of the night was the proprietor's son, and enquired why the noise and the excitement. A little sleuthing and he discovered a second man sitting on a pile of beaver pelts, which in itself is not a crime, but in this case there was a close season on beaver. Arrest and confiscation followed. The Game Overseer had been suspicious of illegal trafficking at this particular place and had asked the police to keep an eye on it. He was advised of what had taken place and was quickly on the scene with a search warrant and help to enforce it. Search led to the roof of the store where two bags of pelts were found, while inside another cache was discovered. When the excitement was all over the Game Wardens were in possession of 82 beaver, 3 otter, 11 mink, 4 red fox and 1 lynx pelts, one Ford car, 1 trunk and 2 suitcases.

The owner of these ill-gotten furs and other articles, one Abe Cohen, was haled into court, and when the magistrate was through delivering judg-

ment found himself facing a fine of \$1,700 plus \$21 costs or _____. The fine was paid. It is authoritatively stated that the furs which will be sold and credited to the Department, in addition to the fine, had an approximate value of \$2,000.

Just as we were recovering from the elation of a job well done an even larger seizure was made right in the city of Toronto. It consisted of 120 beaver pelts, and this important loot was stumbled upon by accident. It appears that the R.C.M.P. were searching the store of one Pasquale Giardini for illegal liquor when they came across two or three cartons which looked suspicious. Investigation disclosed that they contained beaver pelts, which are just as precious as liquor and equally risky when illegally handled. The Department was at once communicated with and the furs seized. Examination by officials revealed that these pelts were as fine specimens as ever came into the hands of the Department.

Mr. Giardini duly appeared in court to answer to a charge of illegal possession of furs, and when the smoke of examination and cross-examination had dissipated, the magistrate registered a conviction and imposed a fine of \$20 per pelt or five days in gaol in each case, making a total of \$2,400 or 600 days in gaol. The pelts, when sold, will probably add another \$2,400 to the revenue of the Department.

The other day, from Sudbury, came particulars of a seizure of beaver pelts made in that district. Aware that a certain amount of illegal traffic in furs was taking place, enforcement officers were methodically stopping every car on a certain highway and, where circumstances demanded it, searching for pelts. A Ford coach driven by one Irwin Tullock, accompanied by two Indians, was stopped, and investigation revealed twenty beaver pelts, in addition to fourteen muskrat pelts. Confiscation of the car and pelts supplemented the arrest of the driver and occupants. It was the old story of an irresponsible fur buyer dealing with equally irresponsible Indians, and encouraging them to trap out of season.

The defendant, Irwin Tullock, pleaded guilty to the charge laid against him and was fined \$800 and costs of \$17.25. Three Indians, a father and two sons, also involved in the case, were convicted, the former receiving a three months' term, the other two being given suspended sentence.

Speaking of irresponsible Indians, which is no reflection on the race in general, we note another large seizure of beaver pelts, this time from Timmins, and involving five Indians. Between them they had 115 beaver and 2 otter pelts illegally obtained. The magistrate imposed the minimum penalty of \$20 per pelt, or three months in gaol.

While this was being written a further shipment of 74 beaver pelts has been seized in Toronto, and court action will follow as soon as the evidence is complete.

The cases noted above represent seizures of over 400 beaver pelts with a probable value of \$25 to \$35 each.

These incidents give some idea of the extent of the law-breaking with which the Department has continually to contend and show that effective means are being taken to keep it in check.

It should be noted that the penalty for an offence against the Act or regulations with respect to beaver is \$20 to \$100 for each pelt the subject thereof.

Joint Board to Study Great Lakes Fishery

Marking the third International body for the conservation of Fisheries set up jointly by the United States and the Dominion, an exchange of notes was recently signed by the U.S. Secretary of State, and the Canadian Minister at Washington, D.C., setting up a Board of Inquiry for the Great Lakes Fisheries.

The problem of conserving the fisheries of the Great Lakes has long engaged the attention of the Governments of United States and Canada, and the Province of Ontario and the States bordering on the Great Lakes. In an effort to preserve and develop the fisheries the new Board will make a study of the taking of fish in the Lakes and will submit recommendation to the governing bodies. It will not, however, have regulatory powers.

With a view of obtaining full information and the benefit of the opinions of commercial fishermen, sportsmen, and other interested persons, the Board will hold hearings at early dates at various places in the Great Lakes area.

The Canadian Government has appointed as its representatives on the Board, Dr. A. G. Huntsman, Consulting Director to the Fisheries Research Board of Canada, and Mr. D. J. Taylor, Deputy Minister of the Department of Game and Fisheries of the Province of Ontario. Appointed by the President of United States, Hubert R. Gallagher, Assistant Director, Council of State Governments, Chicago, Illinois, and Dr. John R. VanOosten, Ann Arbor, Michigan, in charge of Great Lakes Fisheries Investigations for the United States Bureau of Fisheries, will represent the United States.

* * * * *

Many a man would have kept out of hot water had he stuck closer to cold water.

* * * * *

Waste of any kind is sinful; unlawful destruction of our natural heritage is criminal.

* * * * *

Observe the game laws and the enforcement problem will be solved.

When the Trout Begin to Bite

J. L. Noonan

Three-score years and more by several,
Looking back along the trail
By the foothills near the mountains
Down the valley through the vale,
Along the path that leads to nowhere,
Through the meadows blooming white
To the pool beneath the willows
When the trout begin to bite.

Years have gone with many changes,
Time has touched our hair with gray,
Old-time friends and vanished pleasures
Silently have passed away.
But there comes to me a vision
From a past of real delight.
Just a kid again, a-fishin'
When the trout begin to bite.

You may talk of other pleasures,
Of the joys you used to know,
Of the happiness and pleasure
In the days of long ago;
All my troubles seem to vanish
And my cares have taken flight
When I take a jaunt a-fishin'
And the trout begin to bite.

So my fancy paints a picture
That may well be understood
When the willow flies are flashing
And the tang is in the blood;
And there comes the youthful longing
That can never vanish quite—
Just a never-absent vision
When the trout begin to bite.

Time may bring me many pleasures,
Joys unnumbered fast and thick,
But it does not seem to strike me
Just like fishin' in the creek;
You may have your banks and money,
Bonds and acres and the like,
But my fishin' pole is plenty
When the trout begin to bite.

—Colorado Conservation Comments



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DEPARTMENT OF

GAME AND FISHERIES

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HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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THE present moment is one of acute distress, anxiety and worry. The tide of adversity is rising steadily and the high water mark is not yet defined. The regular ebb and flow of our peaceful pursuits has been upset by a whirlwind of ruthless despotism which has not yet expended its force or completed its work of destruction. Many nations have been engulfed in the vortex of this martial cyclone; millions of free peoples have suffered death or physical hurt, and many more millions have been enslaved as ruthlessly as in the days of the slave trade. Such demoniac destruction of life and property could hardly be imagined. The blackest pages of history have no parallel. Centuries of progressive development in every sphere of political, social and cultural life have held no weight in preventing this holocaust. The egotistical ambitions of one man, backed by the might of a great military nation, have swept aside all humanities and threatened to engulf the civilized world.

The ramifications of this world catastrophe are just beginning to clarify themselves. The new world, heretofore considered safe from the entanglements of European politics and isolated by two oceans from any physical threat to its national life or democratic ideals, suddenly finds itself in a precarious position warranting extreme measures for self-defence. Already the juggernaut of Nazi military might has rolled over and subjugated much of western Europe, while its sinister influence has extended into other countries, creating fertile ground for future trouble. The situation is extremely grave, and nothing will be gained by failing to take cognizance of this fact.

The British Empire stands alone, at present, in defense of those ideals which are the bulwarks of our constitution and the heritage of all free peoples. We shall be sorely tried and tested, and it will be necessary to utilize every resource at our command, for offensive and defensive purposes, before the world will breathe freely again. The spirit of the Empire cannot be broken by the force of Nazi might, and however long the struggle we shall not fail if we are true to ourselves and our traditions.

The sportsman is peculiarly fitted through his knowledge of firearms and experience in the hunting field to present a bulwark of defense to any invader. In Ontario alone such men are numbered by tens of thousands, and the potential strength of this army is worth developing. Sportsmen will do well to keep this phase of national duty in mind and be prepared should the emergency arise.

The Necessity for Conservation

The full story of the subjugation and early collapse of France is a matter for historians and the searchlight of public enquiry. No doubt but that many factors which are not visible on the surface and are only vaguely hinted at contributed to the collapse. Communists, Fascists, Fifth Columnists, Saboteurs, political dissension and enemies from without and within: all these were factors in undermining the power to attack and the strength to resist which has always characterized the French people. However, it appears that mechanized warfare, for which, according to French statesmen, "France was shamefully unprepared", in comparison with her enemy, was the weapon most responsible for the swiftness with which she was invaded and forced to capitulate. Tanks, motorcycles, airplanes and a multiplicity of surprises in efficient and effective methods of attack were the elements hurled against her and against which her defense preparations were woefully weak.

In the mood of the moment we introduce this warring note, not because of any desire to criticize or explain away a tragedy which almost proved disastrous for the British Empire, but for the reason that we see in it a parallel with the offensive carried out by man over a long period of years, often unwittingly, against the wildlife natural resources of this continent, and which almost resulted in wiping out a valuable heritage, particularly in the older and more populous country to the south of us.

There is one vital and material difference, however. France could have adapted herself to the new type of offensive, and prepared adequate defenses to protect herself; but the defenses provided by Nature for her creatures are elementary and inadequate against modern methods of attack by man. The general struggle for existence which continually goes on in the realm of Nature is part of Nature's scheme for maintaining control and providing a proper balance, and does not enter into our discussion. It is necessary to point out, however, that the protection afforded the creatures against one another is the only defense available to them against attacks by man. What are some of these defenses? Most animals have a very keen scent, and in addition the deer is fleet of foot, the fox cunning, the wolf suspicious and the hare swift, etc. Nearly all birds have very sharp vision and a speed in flight commensurate with their needs, and their colouration in many cases effectively blends with their surroundings and makes detection difficult.

These defenses provide reasonable protection against natural enemies, but are quite inadequate to cope with the scientific weapons which man has devised for outwitting game, and the economic growth of the country which has resulted in the destruction of wildlife habitat through the progressive development of modern civilization.

The enemy attacked Belgium, Holland, France and others of the small European countries with tanks, parachute troops, dive bombers, speedy mechanized units and an internal army of spies and saboteurs, all new weapons in the field of battle. Against these modern weapons the defenses which proved adequate a quarter of a century ago were useless, and the

weight of the offensive was overpowering. Before this devastating force the defenders gave ground and the attackers made rapid progress.

It is just such a situation, more or less thoughtlessly produced, that has played havoc with the wildlife of this continent. Until within recent years the wildlife resources were seldom considered in the economic scheme of things. The fecundity of Nature was proverbial and the resources inexhaustible. Hunting became a popular sport, and weapons for participation in the chase were rapidly modernized. The cavalcade of development along this line can be readily pictured from the days of the club, the falcon and the bow and arrow to the present highly mechanized automobile which facilitates transportation over a wide area, and the modern firearm, which is almost terrifying in its deadly accuracy. Against these new weapons in the hands of its enemies game presents the same defense that it did centuries ago, and as a consequence its powers of resistance have been greatly curtailed. To use a wartime simile—game has been unable to cope with the barrage laid down by the sportsman, the poacher and commercial killer, while it was being cut off from its sources of supply by the axe, the plow, and the inroads of social and economic necessity.

Most of this war against wildlife was a thoughtless and unplanned campaign. Man had no desire to exterminate the creatures which provided him with food and recreation, but it so happened that for many years his activities against wildlife were of a guerrilla nature—not subject to any particular rules or ethics—and therefore uncontrolled. In addition, in his scheme for human welfare he entirely omitted any plans for the protection of the creatures over which he had been given dominion. Thus it was that the wildlife domain was invaded, and before the uncontrolled advance of the invaders was halted a valuable heritage had been seriously looted.

When men began to reckon the toll that was being taken and discovered that many species of wildlife had been almost wiped out, there was an urgent demand for regulations that would protect the game and control the hunter. This was the beginning of the conservation era, and from then on the status of wildlife became clearly defined and its economic and recreational value acknowledged. The battle still continues in forest and field, lake and stream, but it is a battle of wits rather than a one-sided slaughter; a campaign of regulated recreation rather than an orgy of destruction; a game for sportsmen rather than killers!

Conservation

Conservation of wildlife is not something peculiar to that particular resource. It is common to every phase of our social, economic and industrial life. It is the sensible practice of making the best use of every resource with which Providence has so lavishly endowed us, and of ensuring that these will not be dissipated through our own shortsightedness. Medical science and social services are concerned with the protection and welfare of human lives; business efficiency is the machinery which protects capital and eliminates waste; agricultural and domestic livestock products are assured in perpetuity so long as man retains the means of reproduction; in short, national prosperity and human happiness depend upon the efficient

and effective use of every commodity which comes within the sphere of our common heritage.

This plan applied to wildlife is called Conservation, and the word is broad enough in its meaning to embrace every activity designed to protect, develop and perpetuate this valuable asset while at the same time permitting such reasonable use as the needs of man may dictate. What the Department of Game and Fisheries is doing to carry out this programme is the theme of much of what follows.

Administration

Wildlife being a public heritage, it is natural that it should be administered by a Department of Government. About thirty-five years ago the present Department was formed for that purpose, and since then it has steadily pursued a policy of protection and restoration in the Province. From what has already been indicated, the unbridled killing which had been practised for years had seriously depleted many species of game and reduced the fish population in the more accessible waters far below normal. Protection had to be applied as a prelude to restoration, and both are still fundamental to the proper administration of the resources.

Protection

The laws and regulations governing hunting and fishing in force within the Province embody the results of a generation of practical experience and the application of biological knowledge gleaned through extensive research. They afford protection during the reproductive period and restrict the annual take to correspond with the available resources. As a further measure of control they provide for restricted seasons, and also establish the kinds of equipment that may be used. In many other ways, such as creel limits, bag limits, and limits of size, they seek to maintain the supply and ensure perpetuation. These laws are comprehensive, because the resources are extremely varied and territorial and climatic conditions equally so, yet a moment of quiet thought will readily supply the reason for every restriction.

It is generally admitted that the question of food is no longer a factor of importance in the pursuit of fish and game by sportsmen. These resources form the incentive which lures hundreds of thousands of our citizens into the great Out-of-Doors, and it is this wholesome recreation which beckons, rather than the food which may result therefrom. In other words, angling and hunting are sports of the finest sort, and the laws and regulations are the rules which govern. It is the essence of sportsmanship to play the game according to the rules, and we are happy to know that these are sacred to the majority of those who enjoy the sports. However, in every branch of social life there are those to whom laws mean nothing if they interfere with their personal desires, so it is necessary to maintain a staff of protective officers to enforce the regulations.

Protective Officers

Fifty years ago there were game laws of a sort, but as the means of enforcing them were almost totally lacking, they had little value as protective measures. One of the first duties of the Department was to provide for proper enforcement of the regulations, and to help accomplish this a permanent staff of field officers, known as game wardens, was established. A little reflection by any interested individual will no doubt convince him that it is impossible to provide a permanent warden to supervise fishing in every lake, or hunting on every area where men take to the bush. Such a task would require battalions of men, and then the surface would only be scratched. However, there is at present a permanent force of some 85 men, in addition to many temporary officers who are employed for varying periods when their services are most desirable. The Department also receives the close co-operation of the Provincial Police, whose officers are also required to enforce the Game Laws. Hundreds of private individuals have also been furnished with the authority of game wardens, and are empowered to act individually or in conjunction with the field officers in the matter of preventing breaches of the Act.

Because of the extent of the land and water areas of the Province each officer must of necessity cover a large territory, and it is a matter of satisfaction to the Department to know that, despite long patrols, the field officers are zealous in the discharge of their duties. As an evidence of this fact we note that during the fiscal year ending March 31st, 1940, there were approximately 1,300 convictions for infractions of the law. Arising out of these convictions the revenue of the Department was enriched by \$16,521.74 collected in fines. This is not the whole story, however, for each conviction usually means the confiscation of certain articles of equipment used by the violator during the infraction for which he was prosecuted. These confiscated articles are sold by public tender each year and the proceeds added to revenue. The returns from such sales during the last fiscal year amounted to \$9,953.37. As an example of the extent and variety of the seizures made for infractions of the law it is noted that the following articles of equipment were disposed of at the last public sale—Rifles 229, of which 167 were .22 calibre, shotguns 84, fishing poles with reels and lines 70, and a miscellaneous collection of other articles such as axes, flashlights, creels, tackle boxes and 433 traps. In addition the following raw furs were also seized and disposed of by public sale—219 beaver, 24 fox (various species), 75 raccoon, 872 muskrat, 11 otter, and miscellaneous lots of fisher, marten, mink, squirrel, weasel, skunk and wolf.

The Department would, of course, prefer to find law observance so complete that seizures and prosecutions would be unnecessary, but a minority of more or less thoughtless and frequently unscrupulous persons whose activities are a menace to conservation make constant vigilance imperative.

Public Opinion

Laws of any kind are futile unless backed by the weight of public opinion. This is sometimes a matter of education, and it is to the credit of the sportsmen of the Province that they have not been slow to organize

themselves for the purpose of assisting the Department in its conservation work. There are close to two hundred Fish and Game Protective Associations registered with the Department and covering the Province from east to west and north to south. These organizations serve to develop a respect for the laws among sportsmen, and in moulding public opinion to a proper appreciation of the value of the resources. They also co-operate freely with the Department in the work of distributing hatchery fish in local waters.

The Department itself carries on an educational programme through means of public addresses by various members of the staff, and through the medium of official bulletins and releases to the press. Copies of the game laws and summaries thereof are also circulated free of charge.

Game Preserves

Practical protection has been afforded wildlife through the setting aside of extensive areas of land as sanctuary for game. At the present time there are some 121 of these game preserves scattered throughout the Province, and they have a combined area of approximately 6,101,029 acres, or roughly 9,533 square miles. Much of this land is still Crown land, particularly in Northern Ontario, but many of the smaller areas have been set aside with the consent of the landowners. These game preserves are, of course, closed to hunting and trapping, and the regulations prohibit the carrying of firearms within any area so designated. Much of the land is wild land, particularly suited for the natural development of large and small game, while in the southern section of the Province, where some sixty of the total number have been established within the past five years, they are well adapted to the protection and propagation of upland game, including birds, both native and exotic.

A further measure of protection and control is afforded through the scheme of Regulated Townships, which limits the number of hunters to holders of licenses issued by the respective Townships, and these in turn are restricted in number to avoid congestion in any one district. There are some sixty-three Townships operating under this scheme and special hunting regulations are provided by the Department. Almost 32,000 English Ringneck pheasants were released in these Regulated Townships last year.

Fur Bearers

The fur-bearing animals are, of course, afforded protection in the Crown Game Preserves, and to this extent their perpetuation and development is assured. In addition, however, trappers in Northern Ontario are given a defined area for trapping purposes, and there is no encroachment by others. The general effect of this is to place the responsibility for the protection of the fur-bearers upon the trapper himself. It is obviously the essence of good business on the part of the man running the trap line to investigate the situation in his own territory and refrain from reducing the resources below the standard necessary to maintain his business. Then, too, he is naturally jealous of his rights and will protect his investment against illegal destruction by poachers.

The following summary, representing pelts upon which the Department

received royalties during the fiscal year 1938-39 gives an indication of the extent of the trapping operations carried on throughout the Province.

Bear	363
Beaver	1,366
Fisher	1,467
Fox (cross)	2,164
Fox (red)	22,366
Fox (silver or black)	131
Fox (white)	142
Lynx	785
Marten	2,074
Mink	25,111
Muskrat	508,893
Otter	3,764
Raccoon	9,493
Skunk	89,100
Weasel	93,488
Wolverine	3
	760,710

Fish Culture

The ancient Chinese were exceedingly clever people, and the raising of fish was one of their accomplishments. It is believed that they were successful fish culturists, but about the only evidence we have of this ability is the brilliant goldfish. The raising of food fishes in ancient China did not develop much beyond the crude system of gathering eggs from spawning fish on their spawning grounds and transferring these wild fish eggs to flooded rice fields.

The Greeks and Romans were the next to attempt to raise fish. The Greeks were more interested in perfecting satisfactory methods for preserving their sea fish to augment their food supply. The Romans, on the contrary, tackled the job of raising fish for the table on a big scale. Eggs of foreign species were brought to Rome and placed in specially constructed marble ponds by the fish-loving estate owners. It was up to the Roman fish culturist to nurse these fish to suitable size for the banquet table. When Rome was swept by the barbarians from the north, fish culture in marble ponds ended, and it is probably just as well, since it contributed little or nothing to this science.

It is recorded that in the nineteenth century two Frenchmen discovered that the eggs of trout could be taken from the ripe fish, incubated and hatched under artificial conditions, and it was firmly believed then that future generations would never want for a constantly increasing supply of food and game fish. This deduction, of course, was not correct.

For at least 2,500 years fish were hatched as a result of collections from natural spawning areas, but on the whole the results were disappointing, except that eggs were transplanted from areas of plenitude to those of

scarcity, and shortly after the turn of the present century fish culturists realized that little had been done to actually increase the total number of fish. In other words, they had not done more than Nature would have done if the eggs had been left undisturbed. Shortly after the turn of the twentieth century, however, it was clear that more was needed than merely collecting eggs from natural spawning areas and distributing them to other areas. To make fish culture worthwhile it was found necessary to use domesticated fish, to segregate the breeders so as to obtain the most desirable strains, and to study their nutritional requirements and disease problems with which fish culturists were continually confronted.

Twenty-five years ago, when the fish culturist started about the difficult task of improving upon the errors of previous years, new and unexpected forms of trouble arose, and even today, with more extensive knowledge concerning the cause and control of fish diseases, they still furnish the greatest single problem for the fish culturist. As a result of painstaking microscopic studies, however, the causes of mortality in most instances have been brought to light, and laboratory studies in regard to methods of control of harmful parasites have been very successful, so much so that the majority of trout diseases are controllable.

A review of the progress made in the sphere of fish culture during the past decade discloses that hearsay and haphazard methods are being replaced by those based on exact knowledge and rational procedure. It is true that many matters need clarifying, and that more general agreement is required regarding certain practices on which widely divergent views are held. Generally speaking, however, out of a maze of uncertainty a more concrete idea of the aims and purposes of this important subject is gradually taking shape.

In its wider and truer meaning, fish culture is closely linked to aquatic biology, physics, commercial fishing and angling, and it is difficult to give a comprehensive definition of the term. However, for all practical purposes it may be said that a progressive fish culturist is one who measures his success in terms of the good fishing resulting from his labours. Within the compass of a report of this nature it is impossible to deal satisfactorily with all the recent developments in various divisions of fish culture. Therefore, the discussion will be confined to the general progress made in connection with the rearing and distribution of game and food fish.

The vast waters of our Province, among the finest in the world, constitute our most widely distributed recreational agencies, and their importance from the recreational and health standpoints is of immeasurable value to our people. This attraction lies in the entrancing beauty of our lakes and streams, and the excellent fishing which they provide. The development and maintenance of these game fishing interests in a practical manner is one of the primary functions of the Department.

Ontario's commercial fishing industry is also of considerable economic importance, and in point of annual market value of fresh water fish, Ontario stands first among the Provinces.

At the present time the Ontario Government operates twenty-eight fish cultural establishments, located at strategic points throughout the Province. Sixteen of these stations are used for the culture of speckled trout, five for

brown trout, two for rainbow trout and Kamloops trout, seven for black bass and one for maskinonge. There are fourteen hatcheries located on the Great Lakes and international connecting waters, for the purpose of culturing such commercial varieties of fish as lake trout, whitefish, herring, yellow pickerel, blue pickerel and perch, and annually large numbers of fry and fingerlings are distributed to suitable natural spawning grounds and planting grounds in waters where commercial fishing is conducted.

The policy of rearing large numbers of trout to yearling and older stages for distribution to suitable public waters which require re-stocking was vigorously pursued during the past five years. The following comparative distribution figures show the successful results achieved and the definite progress that is being made with yearling and adult speckled trout and brown trout:

	<i>Speckled trout</i>	<i>Brown trout</i>
1936.....	563,351	7,290
1937.....	1,183,223	97,484
1938.....	2,087,990	59,592
1939.....	2,987,344	375,078

The new trout-rearing station at Hill's Lake, vicinity of Charlton, district of Timiskaming, was operated for the first time last year. This station comprises a modern fish hatchery of adequate dimensions consistent with a sufficient and suitable water supply. The hatchery proper can accommodate 3,000,000 trout eggs in a satisfactory manner. Fifteen raceways and four ponds are available for rearing large numbers of trout to fingerling and yearling stages. In addition to this, a pond is provided for retaining parent trout to maintain a satisfactory egg supply, thus making the hatchery self-sustaining.

Although the greatest emphasis is laid on the culture of our native fish, attention is also being directed to the culture of such foreign species as brown trout and Kamloops trout. Brown trout are being introduced to streams in southern Ontario, which, for the greater part of their courses, are no longer suitable for speckled trout; the object of this is to extend the fishing range to the larger and warmer sections of such streams, and in many cases good results have followed. We are also experimenting in a very definite way with the culture of Kamloops trout. The Kamloops trout occurs in a number of lakes in British Columbia, that is Kamloops, Okanagan, Kootenay, and other tributaries to the Fraser and Columbia rivers. This is a very interesting trout of large size, slender in form, and graceful in appearance and movement. It resembles and is closely related to the rainbow trout, or steelhead, but unlike the rainbow, or steelhead, it is not known to descend to the sea, but resides permanently in fresh water.

The construction of ponds for bass propagation is of very great value in view of the importance of supplementing the work of Nature in maintaining this very desirable game fish. During the year three additional bass ponds were used for bass propagation at the Sandfield station, Manitoulin Island, five at the Skeleton Lake station, Ullswater, Muskoka district, and one in the vicinity of Havelock, Peterborough county. All of these ponds were used for wintering trout for distribution as yearlings, that is, after

the bass work was over for the season. As a result of these additional facilities the production of fingerling bass was materially increased.

The demand for black bass for the purpose of replenishing the supply in our inland waters is tremendous. It is admissible that rearing stations are doing good work in an effort to meet this demand, but considering the vast areas to be served and the fishing population, there are other measures taken to ensure an adequate supply. Satisfactory protection of bass during their spawning season, sane creel limits, the control of coarse fish and pollution are among the vitally important factors influencing their maintenance and productivity.

A hatchery and pond for the propagation of maskinonge located at the outlet of Deer Lake, vicinity of Havelock, Peterborough county, was successfully operated for the first time in 1939. In addition to this a suitable area comprising approximately ten acres was set aside on Stoney Lake, Peterborough county, for the purpose of studying, in an experimental way, the conditions required for the successful propagation of maskinonge in natural areas.

Generally speaking, excellent progress was made in connection with the culture and distribution of the various species of fish. In this connection particular mention is made of the speckled trout, brown trout, small-mouthed black bass, maskinonge and yellow pickerel, since the year's distribution under discussion surpassed all previous records. For the first time in the history of the Department maskinonge were reared to sizeable fingerlings by the pond method.

Fish culture extends beyond the bounds of hatcheries and demands discriminating planting methods. To be successful the latter must be based on properly organized and conducted field surveys of the waters to be stocked. Standardized surveys are designed to determine the quantity and quality of the food supply, the continuance of the food supply, breeding grounds, the habits of the fish, relationship of adjacent waters and control of the fishing. With such knowledge we are able to decide the species best suited to the waters and how they may be sustained and maintained. When conditions are found to be deficient we must know how to improve them in order to produce a maximum yield. Like all living things, fish have certain fundamental requirements, and none of these can be adversely affected without seriously impairing the supply or exterminating certain species. When we know as a result of sound scientific research what factors limit fish production, it is then possible for us to work on the modification and control of these factors for useful and practical purposes, provided we know what to do and provided also that such methods are economical.

During the regular open seasons there is a tremendous drain on the fish supply, particularly in the more populated areas where waters are more easily accessible. The menace of over-fishing, which is one of the major causes of depletion, becomes more seriously apparent since the development of the automobile and motor boat; these two useful contrivances have made it possible for a larger percentage of the population to go fishing. In view of these conditions, a practical re-stocking policy must be followed by such regulations and practical measures as are consistent with the maintenance and conservation of the fisheries. Conservation means wise use. Fish do

not grow by magic, and in order to obtain better and larger fish, they must be permitted to grow and reproduce normally; Nature is wonderfully endowed with recuperative powers, and if given a chance it is surprising how quickly fish will multiply under properly balanced conditions of food and shelter. If a suitable number of adults are not left to reproduce we should not be surprised to find a deplorable increase of undesirable species. It is wise for fishermen to remember that a body of water produces a definite number of adult fish, depending on the food, natural enemies and the possibilities of reproduction. If this is recognized there will develop in time a desire to take the minimum rather than the maximum creel limit.

The greatest single factor in the preservation of our game fishing or game of any kind is the development and spread of the ideal of true sportsmanship. Fish are after all wards of the sportsmen as well as the wards of the Government. If this principle is properly understood and applied, future generations will have as much sport, if not more, than the present one.

Fish Plantings for Year 1939

<i>Species</i>	<i>Fry</i>	<i>Fingerlings</i>	<i>Yearling and Older</i>	<i>Totals</i>
Herring	7,700,000	—	—	7,700,000
Whitefish	310,957,000	—	—	310,957,000
Perch	72,360,000	—	—	72,360,000
Pickerel	334,500,000	—	—	334,500,000
Lake Trout	6,486,400	11,351,900	—	17,838,300
Kamloops Trout	—	105,000	—	105,000
Brown Trout	—	29,964	375,078	405,042
Speckled Trout	—	337,000	2,987,344	3,324,344
Rainbow Trout	—	109,635	24,154	133,789
Small-mouth				
Black Bass	1,386,000	227,125	6,036	1,619,161
Large-mouth				
Black Bass	—	690	—	690
Maskinonge	2,795,000	1,300	—	2,796,300
 Totals	 736,184,400	 12,162,614	 3,392,612	 751,739,626

Co-operation

The conservation programme being carried out by the Department as part of its administrative responsibilities will not be entirely successful without the co-operation of the public. It is designed to protect the resources while at the same time permitting their widest possible use. Undue waste and illegal destruction are two of the evils which prevent complete consummation of the plan, and add tremendously to the cost of administration. The resources of the Province in fish and game are second to none on this continent, and the efforts to perpetuate these valuable assets should extend to every citizen.

Nature has endowed us with a country of natural charm, a land peculiarly fitted for the recreational pleasures which belong to the out-of-doors.

Its extensive water areas, virgin forests and wild lands combine to make the Province a reservoir of tremendous capacity for the development of wildlife. Notwithstanding the physical changes that have followed in the wake of social advancement and industrial progress, it has been possible to maintain in large measure this outstanding characteristic. In other words, in building up the Province its natural possibilities have not been overlooked, and as a result the propagation and protection of fish and game have kept pace with its amazing growth as a vacation land. As a matter of fact, the excellent fishing and hunting to be had within its borders are without doubt leading factors in promoting the tourist trade. The economic value of this seasonal industry is too well known to need further comment; suffice it to say that it provides a living for thousands of our citizens, and in the present emergency is of very great importance in establishing foreign exchange for the purchase of essential war material.

The public can assist the Department in many ways, but chiefly by preventing waste and seeing that the provisions of the Game and Fisheries laws are respected. A reservoir that has many leaks will ultimately drain away. It is the hope of the Department that the leaks in the conservation programme which have already been referred to briefly, and which necessitate an elaborate protective service, will be plugged by the common sense and good sportsmanship of every citizen.

The Tourist Traffic

For some time prior to the advent of the tourist season what looked like a propaganda campaign was carried out with the deliberate object of disrupting the tourist traffic between the United States and Canada. This took the form of wild rumours, insidiously spread, concerning alleged internal difficulties that would be met with by visitors to Canada, such as food and gasoline shortage, confiscation of money and automobiles, and unlimited trouble at the border when returning home. These disturbing rumours were calculated to stop the flow of American visitors to the Dominion at a time when intensive efforts were being made to increase the tourist traffic with a view to providing foreign exchange for war purchases. While it was obvious that the number of tourists had fallen off somewhat, early in the season, we are pleased to note that the ordinary traffic is again showing an upward swing. In so far as the Department of Game and Fisheries is concerned we are happy to state that the revenue from tourist angling licenses to date is almost equal to last year, which was the peak year for the Province. This would seem to imply that the tourist angler, at least, has not been frightened by the bogies raised by subversive agencies. It is apparent, also, that the splendid facilities for angling and hunting which this Province has to offer are the most staple of our tourist attractions.

War Measures for Protection of Food

A nation at war must take cognizance of every factor that would interfere with its internal economy, and plug every leak that might deplete its resources of food or supplies. The army in the field must be properly fed

and equipped or it cannot fight successfully, while the civilian population which supplies the equipment and "keeps the home fires burning" will be of physical and moral support only so long as the necessities of life are available to it. It is extremely important, therefore, that all staple foods should be rigidly conserved. This is particularly so in Great Britain, where much of the food supply has to be imported; and is all-important in Germany where, because of the British blockade, and the fact that the economic resources of the country are almost wholly devoted to war effort, food is not too plentiful. We recall a recent report to the effect that dogs were being ruthlessly destroyed in Germany to save the food which they would otherwise consume. Recently, also, we came across another such precaution in Britain which dates back to the previous struggle and is of particular interest to sportsmen.

Up to the time of the last Great War millions of acres of land in Scotland and England were preserved for the private sport of those who were rich enough to be able to lease the fine salmon streams or rent a hunting box for the annual grouse opening on August 12th. Upon these rolling moors and highland glens the grouse and the pheasant lived in luxury and propagated freely, protected from predators—animal and human—by an army of thousands of game keepers. The propagation of these upland game birds on extensive areas of natural habitat for private shooting was a highly profitable business, and the sport a social event of great importance. The birds were literally counted by millions, and the daily toll taken by the guns had to be heavy to prevent them from becoming a nuisance. The predators were controlled by the game keepers and the birds by the sportsmen. It was a more or less satisfactory arrangement for those most concerned, provided the cycle of control was not broken.

Then came the war. The game keepers and the sportsmen were mobilized to protect their country, and guns were trained on bigger game. What was the result? From the "War Memoirs of Lloyd George", Vol. III, we have extracted the following, which aptly describes what happened.

"At this meeting we also discussed pheasants, and decided that the Board of Agriculture should take any measures necessary to prevent them from making inroads on our grain crops. The destruction of the crops by game in the vicinity of preserves has been treated as a joke by men who can afford to indulge in such humour. During the war, when food was scarce, it was a bad practical joke. The war had almost stopped the usual autumnal massacres of the pheasantry, and the result was that the ravages of the surplus birds were devastating. The Board was authorized to issue an Order empowering tenants to kill pheasants where the land-owners had failed to keep them down. The War, which upset so many ancient landmarks, was here making inroads upon those sacred feudal relics, the English Game Laws. It is significant of the temper of the times that this rough interference with privileges which had been guarded for centuries with jealous suspicion should have been passed and practised without audible murmur."

Speaking of food consumption, and in a more facetious mood, we are reminded of the report which came from the Algoma district the other day. It appears that two tourists, accompanied by a guide, made a trip into one of the more or less isolated camps up the White River Road. They had a nice week-end fishing, and on the Sunday night left everything in readiness, in the cool of the outdoors, for a good breakfast and early start for town on Monday morning. When they got up in the morning they found to their amazement that the whole of their food supply had been purloined by four-footed predators. A little sleuthing by the guide revealed the tracks of a mother bear and her two cubs, but these having dined, kept on their way rejoicing. The campers were able to follow the tracks for several miles, but without success. They got an early start to town all right, but made the trip sans breakfast. However, they were thrilled with their experience and went home with a good story to tell their friends.

Sportsmen May Import Firearms to Canada

Ottawa, Canada.—Sportsmen from the United States and other countries who have been in the habit of visiting Canada for the hunting season, or for gun club or trap shooting, may continue to bring their firearms with them under the provisions of an Order in Council which permits the Commissioner of the Royal Canadian Mounted Police to grant individual permits to bona fide tourists. Ordinarily, aliens are prohibited from carrying firearms in Canada, or having them in their possession.

Under the new regulations, intending hunters and others desiring to bring their firearms, together with a reasonable supply of ammunition, into the Dominion, are required to apply in advance by letter or telegram to the Commissioner of Customs at Ottawa, or to the Commissioner, Royal Canadian Mounted Police, Ottawa. Each applicant must state his name, address, and occupation; purpose and duration of visit; destination in Canada; description, make, and serial number of each firearm; and the prospective Canadian frontier port of arrival. The application should be supported by suitable references.

The bona fides of the applicant having been satisfactorily established, a permit will be forwarded to the Collector of Customs at the Canadian frontier customs port designated in the tourist's application, where it will be delivered to the tourist on arrival. No permits will be granted for automatic firearms, and ammunition imported is subject to the regular customs charges.

Specialists

Nature is the greatest specialist of all, in the opinion of scientists of the National Wildlife Federation.

"Man, with all his inventive genius and mechanization has never been able to duplicate, or even approximate, the feats of Nature," according to David Aylward, president of the National Wildlife Federation.

"In the matter of flight, for instance, Nature is far ahead of man," Aylward points out. "The bird is the most perfect flying machine known.

It is ideally adapted to locomotion through the air, and man's best efforts to duplicate its flight have so far failed in every respect but speed."

The sole reason for man's superior speed in the air can be attributed to his ability to construct engines of great power, according to Aylward.

"The best plane man could build would not budge from the ground if it had no more power than that expended by a bird," Aylward says. "In every other respect than speed the bird is still the world's best flying machine, despite man's unrelenting efforts to perfect aviation. A bird can easily go through manoeuvres that would tear the average plane to pieces, and in almost every other respect is far superior to man-made flying machines.

"The ability of a duck hawk to come hurtling out of the sky in a vertical dive, its body a virtual aerial javelin, and yet come out of that devastating swoop safely, is a feat that even a Stuka bomber couldn't duplicate."

Aylward states that Nature is superior to man in the water as well as the air.

"Compare the speed and manoeuvrability of a submarine to the performance of a fish, or to certain marine animals," he comments by way of example.

Supporting Aylward's claims that Nature is superior to man in the water are the antics of the swordfish, sailfish, tarpon and other deep-sea denizens when hooked on heavy tackle. The speed of a hooked marlin has been reliably estimated at 50 miles an hour, when he is pulling against fierce resistance. What could the fish do if he were free? Furthermore, a fish is capable of leaping several feet out of the water, and what submarine can do that?

Officers of both the British and American navies have seen porpoises easily swimming ahead of the prows of fast-moving destroyers. Those destroyers were going upwards of 40 miles an hour, yet the porpoises were evidently just fooling around as they kept ahead of the speed of the boats.

The giant barracuda, known as the "Tiger of the Sea", is estimated to swim as fast as 80 miles an hour, and a shark has been timed at a respectable gait. No undersea craft yet devised by man can approach these speeds.

Evidently Nature still has something on the ball.—*Wildlife Lines.*

Stick to the Fight

When things go wrong as they sometimes will,
When the road you're trudging seems all uphill,
When funds are low and the debts are high,
And you want to smile but you have to sigh,
When care is pressing you down a bit,
Rest if you must, but don't you quit.

Life is queer with its twists and turns,
As every one of us sometimes learns,
And many a failure turns about,
When he might have won if he'd stuck it out.
Don't give up, though the pace seems slow—
You may succeed with another blow.

Often the goal is nearer than
It seems to a faint and faltering man;
Often the struggler has given up
When he might have captured the victor's cup.
And he learned too late, when the night slipped down,
How close he was to the golden crown.

Success is failure turned inside out—
The silver tents of the clouds of doubt,
And you never can tell how close you are—
It may be near when it seems afar;
So stick to the fight when you're hardest hit—
It's when things seem worst that you mustn't quit.

—*Author not known.*



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

September and October
1940

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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CO-OPERATION OF SPORTSMEN

THE success of an army in the field depends in large measure upon the proper organization and co-operation of the various units which go to make up each battalion, brigade, or army corps. When the army is arrayed for battle you will find the supreme commander located at a strategic point and there, fortified by every available piece of information which it is possible to assemble, he directs the forces under his command. Radiating from headquarters and extending to every unit in the field, are vital arteries of communication and supply, ensuring the utmost in cohesive and effective striking power. Obviously wars are not won by isolated local successes, but by the shattering blows delivered in many fields as a result of united effort.

The following editorial from Rod and Gun in Canada, published a number of years ago, points the moral for the sportsmen of the Province:

"Co-operation between the sportsmen of all districts is a vital necessity if the efforts of fish and game protective associations are to bring forth any fruit. Local problems may loom large, but it is a mistake for local organizations to let their own concerns fill their whole horizon. The conservation of fish and game is a very large—a provincial and national affair—and what is most needed is educational work with the object of "selling" the public far and wide on the idea that fish and game are too important economically to be regarded with indifference."

If this is true, and surely it is, a common provincial leadership of all local bodies, in order to organize educational effort in all directions, is by far the best way of bringing about better conditions. It is a mistake for local organizations to feel that their own problems are too peculiar to them to be of interest to others. It is most natural and worthy for sportsmen to make every effort to get their local conditions ordered satisfactorily, but unfortunately it is not favourable influence for public opinion if the labours of sportsmen's organizations degenerate into a scramble for local preference. Public opinion, to achieve the main objects, can only be won over by concerted and uniformly directed action on the widest possible front. As far as the local physical problems of the moment are concerned, these, too, are of interest to the whole, and working together will do more for local problems generally than by individual effort.

This magazine has always recommended the policy of strength in union in relation to the problems of conservation. Sportsmen should join and work with their local associations, and organize local bodies in centres where they do not already exist. Local organizations should similarly identify themselves with provincial bodies and combine their strength into a powerful and general movement."

The Angling Season

The angling season is practically over; the last bass and muskie have been legally caught, and the careful members of the fraternity of piscatorial enthusiasts have oiled their reels, dried their lines, inspected the balance of their equipment and reluctantly laid the whole outfit away to await the recurrence of another spring. The close of the season, while it restrains the angler from further participation in a popular sport, is no particular hardship, for climatic conditions would almost completely limit his activities in any case. The near approach of winter changes the complexion of the out-of-doors, bringing to the leaves those brilliant hues which are a preliminary to their complete destruction, and to the environment of lake and stream the chilly breath which presages the frost and snows of winter. To enjoy angling the weather must be genial, and it is therefore not difficult to forego the pleasure when conditions are such that relaxation is to be had only at the expense of physical comfort.

This seasonal break, however, only serves to stimulate the enthusiasm, for it is a fact that continuous participation in any sport tends to lessen the thrill. This is frequently seen in the bored attitude of some professionals who "play while they work and work while they play". For the angler the period between closing and opening dates provides the opportunity to enjoy in retrospect the experiences which are common to the sport, and to build up a pleasurable anticipation for the next season.

We believe that, despite many unfavourable days, anglers generally will admit that it has been a good fishing season, judged from the standpoint of fish available and caught. It began with the early opening of the speckled trout season, to accommodate impatient weekenders. Speckled trout have been receiving a great deal of attention from the Department lately, and the quality and quantity of the fish planted during the past few years have done much to ensure the rehabilitation of trout waters throughout the Province. More anglers than ever before have discovered the peculiar fascination of stream fishing, and the thrill there is in luring a suspicious, crafty, and highly nervous trout to accept a well-placed artificial fly in the belief that it is one of Nature's creations. Some excellent catches were reported on opening day, and from then on those who were familiar with the trout waters, and experienced in the art, had little cause for complaint. True, there is a period during which the flies and mosquitoes conspire to make the life of the stream fisherman as miserable as a small boy with the hives, but there are preventatives which will enable those who are really keen on this phase of the sport to carry on.

A goodly number of brown trout were also taken during the season, some of them from streams adjacent to Toronto, and it is apparent that this fish is becoming well established in certain waters where it has been introduced. Most of the brownies we have seen have been larger than the average run of speckled trout, and this has added to the joy of the lucky anglers.

Sportsmen will recall that the season for Rainbow trout was opened one month earlier this year. This proved to be a great boon to the angler.

who for a number of years has not been very successful in his quest for rainbows. The early season enabled him to intercept the fish after it was through spawning and before it migrated to the larger bodies of water, where it is difficult to catch. As a result, many more rainbow trout were taken this year than usual, and the stream fisherman had something additional to crow about.

Two weeks after the opening of the season, the red light was lowered on pike and pickerel, and the rush to the fishing grounds became general. It is no exaggeration to say that these two species are exceedingly plentiful throughout the Province, particularly the latter. In the Great Lakes, as well as the inland waters, pickerel were generally available and biting freely all season. This is not surprising in view of the fact that, in addition to the natural reproduction, hundreds of millions of these fish are artificially raised and distributed each year.

A few years ago pike were unprotected because they were of little interest to anglers, but with refinements in equipment it was discovered that the pike was capable of providing lots of thrills in addition to the ecstasy which always accompanies the capture of a big fish. Fortunately for the angler pike are quite numerous in suitable waters, and reports indicate that many fine specimens were taken this season.

The gap between May 16 and July 1 introduces the fly season. These are not of the artificial variety, as every bushman knows; in fact, if there is anything in the world of Nature more aggravatingly active than black flies, particularly when the hands are preoccupied with a delicately poised rod and a fighting fish, we don't know what it is. This was an excellent fly season. Weather conditions were ideal for the hatch, and the smell of citronella was heavy in the air wherever the angler cast his line. Happily this plague is short-lived, and usually before the vacation season opens the Heinkels and Messerschmidts of the insect world have spent their fury and collapsed from sheer exhaustion.

It is in this interval, too, that lake trout begin to respond to the lure of the angler. The sport of trolling for these fish is conducive to complete relaxation because it demands the minimum of exertion. There is a fascination about it which appeals to a large following, and this is intensified by the size of the fish which are the reward of patient effort. Lake trout fishing was reasonably good during the past season, particularly in the inland lakes, which have received a great deal of attention for many years in the matter of re-stocking. Probably more than any other fish, lake trout must be pursued to their lair. The waters in which they are to be found are usually extensive, and they progressively seek greater depth during the summer, returning to the shoals to spawn in the fall. Refinements in tackle used have added a great deal of zest to this deep water fishing.

Perhaps the two most generally sought-after game fish are bass and maskinonge. For its size the former has few peers when it comes to fighting spirit. Its energetic rushes when the hook is set, followed frequently by a frantic leap out of the water in an attempt to gain enough slack to free itself, plus the tenacity with which it struggles on to the end, have

earned for it the sobriquet of "dancing dynamite". Taken on light tackle —a fly rod for preference—a fighting bass will provide the angler with thrills galore.

The maskinonge is equally ferocious in its mad rushes for freedom. It battles with a courage born of despair, and fortified by its size and strength, puts up quite a struggle.

With the opening of the bass and muskie season the last stop light had been passed, and the rush to the fishing grounds was well under way. Reports from all over the Province indicate that bass were quite plentiful, and an unusually large number of big fish appear to have been taken.

A great deal of attention is being given to the conservation and propagation of the maskinonge, and it is probably because of this fact that we have noted with interest many reports during the season from widely scattered points telling of good muskie fishing.

Well, the season is over, and as we previously remarked the angler should have enough pleasant memories to last him until the relentless finger of time once more points to May 1st. In the meantime, may we suggest that he join the fraternity of those who are organized for the protection of fish and game and devote some of his enthusiasm to the spread of knowledge concerning conservation methods and sporting ethics necessary to the perpetuation of his sport.

The Place of the Sportsman

At a meeting of the League of Ohio Sportsmen held recently the question of aliens possessing firearms was widely discussed, and as a result strong representations are to be made urging that aliens be required to dispose of their firearms and ammunition. It was pointed out in the course of the discussion that the State laws prohibit aliens from purchasing a hunting license, and there was therefore no valid reason for any alien being in possession of firearms. The problem, of course, is a domestic one for our good neighbours to the south to deal with, therefore, we offer no comment except to say that in Canada aliens must surrender their firearms to the police. Special provision however, has been made for responsible sportsmen from the United States to bring their firearms and a reasonable supply of ammunition to Canada for hunting purposes under authority of a permit issued by Federal authorities.

In the course of the discussion, as reported in the press, one speaker pointed out that "in any programme of national defence, governmental authorities depend, to a large extent, upon the hunters of the nation. They are trained pistol, rifle and shotgun shots, and even when too old for active service are leaders of home defense units. What a trap-shooter could do to an enemy dropping from the skies in a parachute will be appreciated by any citizen. Then, too, experienced hunters who may be in active army or navy service do not waste many shots when cracking down on a plane or other objects."

In the last issue of the Bulletin we suggested that because of their familiarity with firearms the sportsmen of the nation represented an emer-

gency defensive force already partially trained and equipped. The discipline which sportsmanship involves, and the experience gained in the hunting field, clearly fit them for effectively countering the latest phases of scientific warfare, viz., the landing of enemy troops by parachute or plane. A majority of these men are too old for active service, yet their hands are still steady and their eyes keen. We attended a skeet shoot recently, and were somewhat amazed to see with what consistency these veterans of half a century and up shattered the clay pigeons as they were hurled from the traps. We trust there never will be an emergency requiring the skill of these men, but it is at least a comforting thought that their recreation has made them capable of playing an important part in the defense of the nation against any invader.

Your Chances Are Good

As we write, public announcement has just been made that there will again be open seasons for partridge as well as pheasants this year. This will be good news to sportsmen who are fortunate enough not to be overseas engaged in a grimmer struggle with more deadly intent, and who, by the way, have taken the precaution to register their firearms. Remember, this registration is compulsory, and you can't borrow or lend a gun after September 30th without a special permit. That is going to be tough on the fellow who has no gun of his own but usually manages to take in the occasional shoot by a late-minute borrowing of his neighbour's firearm. This practice is typical of our democratic ideals and the freedom with which we are enabled to enjoy those recreational privileges which in other lands are only available to those of wealth and power. In pre-war Britain, for example, anyone might shoot grouse if he had a license. There's nothing hard about that; even in this country a license is necessary, but it tells only half the story. What good is a license to hunt if the only available territory open to you is your own backyard, and that, the usual green sward over which the weekly wash flutters in stately dignity? The Ontario sportsman, on the other hand, may buy a license with the assurance that a great deal of hunting territory is open to him, and that his chance of getting game are reasonably good.

We mention this fact in connection with the announced intention to provide another pheasant and partridge shoot this year for a very definite reason. We have frequently heard the more or less thoughtless sportsman "grousing"—that appears to be a very descriptive word under the circumstances—about the special license fee he has to pay the municipal authorities for the right to shoot in that particular township, and frequently wailing because, after paying the fee, his bag was nil. We wonder if the gentleman with the grouch ever asked himself how much hunting would be available to him if it were not for the co-operation of the farmers in the various municipalities. There is no obligation on the part of the landowner to allow unrestricted trespass over his lands, but for the most part he is willing to share the pleasures which his forest and fields afford, if only his rights are respected and his lands are not overrun. Further, he has readily acquiesced in the general liberation of pheasants on his lands, and gladly feeds them

during the trying days of winter, when natural food is not available. For these generous gestures to the sportsman he asks nothing but the protection of his property and the right to share in the spoils of the chase. Such privileges, under normal conditions in European lands, would cost a small fortune, but in this country they are ours for just the courtesy of being good sportsmen.

Those who are interested in pheasant hunting know that there are certain townships in the southwestern section of the Province which, through arrangement with the municipal authorities, have been designated Regulated Shooting Areas. Before being so set aside mutual arrangements were made which had the effect of affording a greater measure of protection against damage to the property of the farmer, and on his part an assurance definite or implied, that the sportsman legally hunting in the area would not be subject to the humiliation of being ordered off the land. This arrangement enabled the Department to proceed with an intensive plan for stocking these areas with Ring-neck pheasants, and thus provide the sportsman with more upland game. During the past three years more than 70,000 of these birds have been released in Regulated Townships and certain other suitable areas, and in each of these years open seasons have been provided.

The special fee of one dollar per day covering the pheasant shoot in any Regulated Township, and which is payable to the municipality concerned, provides a means of controlling the influx of non-residents of the township to any one area. In the interest of the hunter himself this is very desirable for it prevents congestion and assures a wider distribution of the birds. What becomes of the money paid to the municipality in fees? In theory it might conceivably be used for the general reduction of the taxes paid by the farmers as a slight measure of compensation for freely opening their lands to the sportsman. However, as the licenses sold by any municipality are limited in number, the revenue derived therefrom is comparatively small and would make little or no appreciable difference in the taxes paid by the individual. Experience has shown that some of it is used to pay Deputy Wardens for enforcing the regulations during the open pheasant shoot, for providing compensation to the farmer for any damage that may be done, for social or charitable purposes within the township, or in any other way the authorities may see fit. Some townships have even spent part of it to buy extra birds, in addition to those supplied by the Department. Obviously therefore, for the privileges enjoyed, the fee is modest.

But what of the complaint that after paying his fee his game bag was still empty? Let us answer by relating a personal experience. We were "doing" the Exhibition one evening during its recent run in company with a friend, whose pockets were bulging with small packages of cigarettes he had picked up at one of the gambling booths where cigarettes take the place of chips. On the strength of his previous luck we were inveigled into sitting in on a bingo game. For those who may not have been present at the "Ex.", we should like to explain that the interior of the booth was overflowing with merchandise of all sorts, from naked cherubs to fully dressed dolls, from clocks to electric lamps, from tablecloths to blankets, and for

a modest fee of ten cents the winner might have his choice. Each game took but a few minutes, and always some wildly excited individual yelled "b-i-n-g-o" to the discomfiture of everybody else. In the course of half an hour or so we squandered the price of a pheasant license, and our companion an equal amount, but always the beans on our cards refused to conform to the requirements of the game before someone else had bagged the prize. We paid our money but came away empty-handed. What has this to do with pheasants? Well, last year we bought a two-day pheasant license and hunted both days. Each day we saw pheasants which, with a little more dexterity, we might have shot, but each evening we returned home with an empty bag. Like the bingo game, there were plenty of prizes available, but luck wasn't with us, and our skill nothing to brag about! Over and over again we heard hunters confess that there were lots of birds but they just wouldn't flush until you almost tramped on them. Hunting is like that. There is no guarantee that you will get game every time out, but there is an assurance that a reasonable amount of game is available, and if you draw a straight bead and shout "bingo" fast enough your chances are good.

The Ethics of Sportsmanship

The ethics of sportsmanship have undergone many changes during the past quarter of a century, and these changes have all been along the lines of personal restraint and a new attitude towards the sport. Fishing is no longer a mere matter of catching fish; or hunting, the destruction of excessive quantities of game. When Nature was more or less unspoiled by the progressive development of our social and economic systems fish and game were so plentiful that the man with the biggest string or the fullest bag was the hero of the occasion. You will find a picture of this particular gentleman in almost every snapshot album which antedates the last war and the period immediately thereafter, posing with smiling countenance, or self-consciously affecting a heroic air, beside a long string of fish or with a miscellaneous assortment of upland game strewn about his feet or adorning his person. Yes, we all know this sporting gentleman; he hasn't entirely passed from the picture; but he doesn't photograph so well any more!

Sporting ethics have been revised so that fishing has become an admixture of art, science and philosophy, rather than just a game of catching fish. The art and science pertain to the methods and equipment used; the philosophy to the mental attitude—happiness and contentment which the sport inspires; and the fish merely the allure which makes the game possible. Sportsmen conservationists even object to being called fishermen any more, for the word implies "fish" rather than "sport", and savours of the commercial operator whose business in life is to catch fish. The simon-pure is an "angler", and angling, with all it implies, is his hobby.

The hero, if such there is of the angling world today, is the man who, paradoxical though it may seem, returns with a tale of fine fishing, but with his creel more or less empty. To the thoughtless this doesn't seem to make sense, but to the fraternity it means that a great deal of self-restraint has been exercised; that unneeded fish have been returned to the water to

take care of future demands; and that the angler has grasped the value of conservation.

Ethics are unwritten laws; they are the A, B, C's of moral conduct, which in the case of fishing and hunting are intended to raise the standards of sportsmanship. The matter of fishing for fun rather than for food is an ideal which emphasizes sport rather than slaughter, restraint rather than unbridled license, and conservation rather than dissipation. Listen to the enthusiasm of a well-known Ontario sportsman as his experience is recorded in one of our sporting magazines. He speaks of battling with "six pounds of fighting bass" and finally getting him in the landing net. "What a fish," he exclaims. "A large mouth, and at least two pounds heavier than any I had previously taken. After admiring this old-timer of a lily-studded bay I took a movie of my daughter returning him to the water." Two days later he enjoyed the thrill of landing an equally large small mouth, which he took back to camp alive in a galvanized tub filled with water. After being photographed this fish, too, was released. "Right now," says the angler, "I have a profound feeling of satisfaction and pleasure in knowing that the two largest bass which ever struck my lure and were successfully landed are still kings of their realm and are no doubt waiting to give some other angler the thrill of such a fight as it has been my pleasure to experience." Here we have a practical demonstration of the new trend in angling ethics. To our sporting friend these big fish meant more in thrills and personal pleasure than any value they may have had as food. The moral is, what you don't need for your own use within the legal limits set by law return to the water uninjured. The fish so treated will bite just as freely tomorrow, and you will have the satisfaction of playing a part in the scheme to perpetuate a valuable heritage.

In the hunting field, too, fine distinctions of conduct have been introduced, and whispered around as the acme of sportsmanship. The tendency is to restrain the sportsman as his weapons of destruction become more efficient, so that game will not be unduly handicapped and the element of sport be maintained. We recall, for example, the slaughter of wild fowl which characterized the old days, when batteries of young cannon were used on the flocks feeding or resting on the water. Then, as a contrast, we are reminded of the story told by a good friend of ours at a meeting we attended recently. It seems that as a young man he was invited to go duck hunting. He had no experience as a hunter, but was thrilled by the opportunity to participate. In the course of the hunt he found himself apparently alone when a single duck flew in and lit on the water almost within range. He sneaked up as close as he dared, raised his gun and fired, but the duck flew away uninjured. As he stood watching it disappear, feeling a little disappointed, an old-timer of the party patted him affectionately on the shoulder and quietly remarked, "It just isn't done, sonny!" That was all that was said, but it was a sermon in a few words, and he confesses he never forgot the implication.

A local nimrod had been rabbit hunting for the best part of an afternoon without the benefit of a dog, and had not even scared up a hare or cotton tail. Then, as he continued to wander through the swamp he noticed

a snowshoe rabbit sitting beneath a bush staring at him with large, luminous eyes. He stopped and stared back, but the rabbit made no move. He approached slowly, with his gun ready, but still the rabbit remained calm and unperturbed. The hunter was now only a few feet away and his prey had barely begun to show signs of alarm. He stared at it for another moment or two, then backed away, leaving the rabbit to enjoy its rest, and remarking as he did so, "You're too trusting to shoot; if you had run away it would have been different".

As we have tried to point out, the tendency is to place the emphasis on the sport rather than the game, and the more difficult the acquisition becomes the more skill is involved. There was little that was thrilling in the slaughter of ducks by machine or battery guns; nor could the killing of the passenger pigeon in large numbers because of their density be classified as sport. We have recently come into possession of a book entitled "Wild Sports and Natural History of the Highlands", by Charles St. John, a Scottish laird. Speaking of the grouse shooting he says: "I cannot say that my taste leads me to rejoice in the slaughter of a large bag of grouse in one day. I have no ambition to see my name in the country newspapers as having bagged my seventy brace of grouse in a certain number of hours on such and such a hill. I have much more satisfaction in killing a moderate quantity of birds in a wild and varied range of hills with my single brace of dogs, and wandering in any direction that fancy leads me, than in having my day's beat laid out for me, with relays of dogs and keepers, and all the means of killing the grouse on easy walking ground, where they are so numerous that one has only to load and fire. In the latter case I generally find myself straying off in pursuit of some teal or snipe, to the neglect of the grouse and the disgust of the keeper, who may think his dignity compromised by attending a sportsman who returns with less than fifty brace."

Of course, the changing viewpoint is not all a question of ethics. Conditions for the sportsman have altered materially since the beginning of the century, and regulations imposing restrictions have become more numerous with the years. These have not added to the available bags, but they have tended to improve the sport, which is all to the good. The sportsman himself has provided the final touch through a change in his mental attitude and the practice of those refinements which we call the ethics of sportsmanship.

Know Your Ducks

The duck season is well under way, and those hardy individuals whose alarm clocks suddenly shatter the peace of the household in the dark hours before the dawn, and who, springing to life at the call, spend the intervening hours, prior to punching the time-clock, huddled in a blind or crouching for cover in the vicinity of the shore waiting patiently for the morning flight, are having their innings. Duck hunting is replete with thrills, but it is more strenuous than most other phases of the sport, because the early morning hours are usually cold and disagreeable—particularly when one is huddled in cramped quarters—and the evening hours are most productive

when the weather is stormy. The nimrods of the blinds and bullrushes are hardy individuals; they have to be!

Pre-season indications are that the duck situation continues to improve. The American Wildlife Institute, commenting on the fact, says in part: "Ducks and other migratory waterfowl are now enjoying better-than-average nesting conditions in Canada, according to reports of the U.S. Fish and Wildlife Service and the American Wildlife Institute.

These good conditions for raising young, and the fact that the birds returned to the breeding grounds in large numbers and in somewhat better condition than last year, point to a banner duck hunting season this fall, in the opinion of expert observers."

Herewith we quote extracts from a few of the reports received from our officers, and which are typical of the general situation. From the Cornwall district, "Saw hundreds of black ducks and teal, also a lot of Hungarian Partridge". From a district east of Toronto: "Found black, teal and wood ducks more numerous than in several years". From the Niagara district: "A large quantity of black ducks have been seen". By this time, however, duck hunters will be able to form their own opinions.

We have often marvelled at the knowing manner in which the old-timers recognize the flight, or individual members thereof, as blacks, mallards, canvasbacks, teal, etc., to name only a few of the better-known ducks. Identification on the ground is comparatively simple if one is interested enough to study the different colourations and markings, but a bird in flight is not so easily recognized. An article in the October Field and Stream is headed by the following statement: "The man never lived who can identify every duck that flies by". This will be some consolation to the large number of men who are mere tyros at the game, and have difficulty distinguishing a few of the most common on the ground, and who are afraid to call them anything but "ducks" while in flight. Let such take heart, however, for as the writer referred to states: "Experienced hunters know the little quirks that brand a duck. That is why they can usually sing out with 'Mark right! Ruddies' before the tyro has fairly spotted the oncoming birds. But it takes a good many years of shooting experience before one can identify birds like a veteran. Only by listening to his elders can the beginner speed up the process."

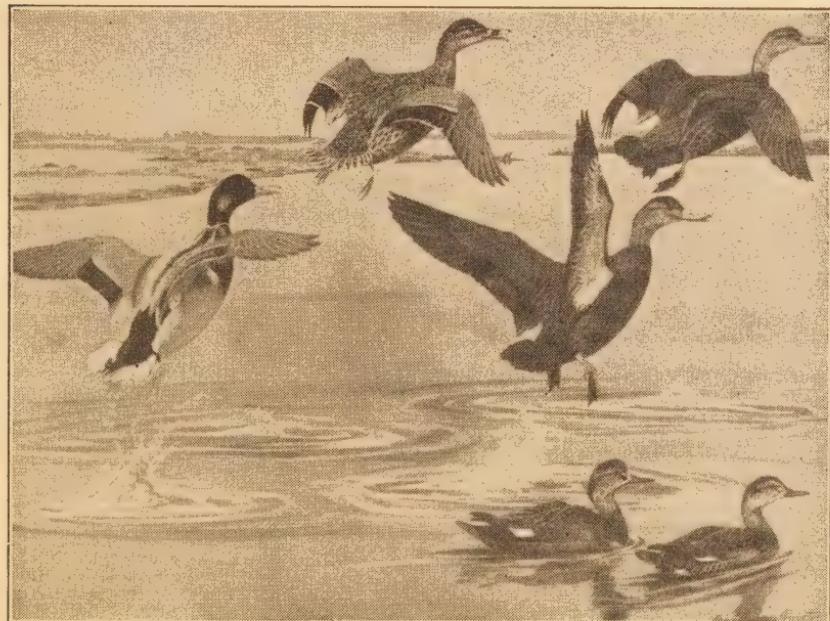
In order that the beginner may be able to distinguish at least a few of the better-known ducks while in flight, we give some of the characteristics of size, action and colouration by which they may be identified. Mallards and blacks are probably the most familiar. They have several characteristics in common, and are reasonably easy to distinguish from other ducks, but may often be confused for one another. In size and general appearance they are about the same, and both have a slower wing beat and, comparatively speaking, a more leisurely flight than many other species. They are shore or shoal water ducks, feeding usually in shallow water and immersing the head by tipping when searching for food. Upon leaving the water suddenly they jump almost straight into the air and are rapidly under way. The black duck, as its name implies, always appears very dark in colour when in flight, although it has a flash of white on the under wing.

The mallard drake is very colourful, its green head and white neck ring being conspicuous, while the hen will appear much lighter than the "black" and show a whitish tail.

Pintails belong to the same general classification, and are in the same size group. As the name suggests, they have a pointed tail, more pronounced in the male, and which, by the way, is seldom distinguishable in flight. They are moderately streamlined and slender in appearance, a fact which is emphasized by a long, slender head and neck. Seen from a distance the under plumage appears very white, particularly in the male.

In this same group of shoal water ducks are those erratic and acrobatic little fellows known as teal. They are the smallest of the group and because of this fact are readily distinguished. Subdivided, they are called green-winged and blue-winged teal as a result of wing colouration. In flight, it should be sufficient for the beginner to identify them as teal. Flying over the marshes in search of food, these birds perform like aerial gymnasts, whirling and swooping with all the speed and abandon their feather-weight proportions permit. The green-winged teal has a habit of flying in large flocks at great speed, and their gyrations are almost in perfect unison.

Another in this group which the inexperienced should learn to recognize, if only because of the fact that it is protected by law, is the Wood duck. Fortunately for the peace of mind of the Ontario sportsman this is about the only species he must be able to distinguish if his record for



Shoalwater Ducks

Mallards

Blacks

Gadwalls

sportsmanship is to remain clean. The wood duck is seldom found far from the seclusion of a sheltered bay or wooded stream. It not only builds its nest in a hollow tree, but passes freely through the woods with the dexterity of a partridge. These facts probably account for the name by which it is known. The drake is a riot of colour, and is generally conceded to be the gaudiest of the duck species. In flight it may be recognized by its large head and long, square tail, and a peculiar rolling gait. If these characteristics cannot be caught, the crest and very light under surface of the male may provide a clue. In the female a white ring around the eye is always conspicuous.

The second group of ducks are called diving ducks because of the fact that they dive, often to considerable depth, in search of food. They are to be found usually in open expanses of water, and for this reason are probably not so accessible as the shore ducks. In rising from the water they flutter or skim over the surface, using the feet as well as the wings. The canvasback is perhaps the best known of this group. The male canvasback is readily identified even at a long distance, by its white back, and both males and females may be told by their long, sloping bills. In the canvasback the bill and the head are joined without visible angle; the bill continuing without interruption the tapering lines of the head. On the wing it has a semi-streamlined appearance, its long neck, head and bill stretched out ahead as if to accelerate speed, and its feet folded back and reaching beyond its tail.



Canvasbacks

Diving Ducks

Redheads

Another in this group with which it is often confused is the Redhead. The confusion arises mostly from the fact that both have red heads and are fast-flying ducks. Redheads, however, present a uniformly gray colour when in flight. They are also chunkier than the canvasback, and their round heads and arched foreheads should assist in identification.

There are other less common ducks in both groups, but if the beginner will make himself familiar with the characteristics of those mentioned he need no longer be overawed by the experience and knowledge of the old-timer.

Just in Case You Haven't Heard

Just in case you have not heard, here is the formula for peace in the kitchen and happiness in the home—provided always, of course, that you are a duck hunter and have killed some ducks.

Fill a deep pot or bucket with water and put it on to boil. Melt in it enough paraffin to cover the surface to a depth of from one-eighth to one-quarter of an inch.

Cut the duck's wings off at the second joint. Pluck dry the major feathers from the wings, tail, back and breast. Simply take what comes at the first grab and do not be too particular. Leave the neck hackles, because you will later lop off the neck anyway.

Grasp your half-plucked duck by the head and dunk it in the water, which is now not actively boiling but still hot enough to keep the paraffin liquid. As you remove the duck, the paraffin will completely cover it. Lay the duck on a piece of newspaper to dry. Continue with the next duck. By the time they are all laid out on the paper the first will be covered with a hardened case of paraffin. Simply crack the case any place and rip it off in sheets. All down and feathers will come with it, and your duck will be as clean and pink as a spanked baby.

—Wilbur Fiske, "*Field and Stream*".

Safety First—Always

Last year during the hunting season a young man was killed by the accidental discharge of a rifle carried by a companion. This was not the only fatality of the hunting season, as we shall show, but in this particular case the jury which investigated the circumstances added a rider to its verdict suggesting that the Department of Game and Fisheries should issue to hunters a pamphlet with instructions and information as to the carrying and handling of firearms. At the outset we would like to make it clear that the Department has, within the past few years, quite frequently offered such advice and instruction through the pages of the Bulletin. However, the suggestion once more gives us the opportunity of referring to this matter and of trying to find the causes of last year's hunting accidents.

In these tragic days the appalling toll of human lives with which the world is being saturated has more or less dulled our sense of human values. During normal times we shudder with deep emotion when the Grim Reaper stalks abroad and tragedy heralds disaster of one kind and another, but when it becomes our daily portion, through the machinations of fate, we

murmur resignedly "It's the war", and carry on. Wars appear to be inevitable so long as human nature remains as it is, but there is no reason why the tragedy of war should be apparent in our recreation. Last year, for example, was one of the worst seasons in the history of the Province in so far as fatal hunting accidents are concerned. Our records are probably not complete, but we have reports of some twenty-three fatal accidents, and as many more in which injuries were caused through the use of firearms on the hunting field and elsewhere. When it is realized that the army of hunters is close to 100,000 strong, and that each is equipped with a weapon or weapons of destruction it will be seen that the greatest care must be exercised at all time. "Accidents must not happen" should be the slogan in the hunting field.

We notice, however, that the majority of these accidents were the result of carelessness, or lack of suitable precaution, either on the part of the victim himself, or one of his companions of the chase. They are not confined to the inexperienced, therefore a lack of knowledge is not the primary cause. Let us briefly consider what actually did happen in a few of these cases, then the value of the precautions we have been consistently advocating will be apparent.

(a) Was found lying beside a barbed-wire fence shot through the head by a bullet from a heavy calibre rifle which he was allegedly testing before taking it deer hunting. The surmise is that the gun was discharged while he attempted to cross the fence. This is a common form of accident unless adequate precautions are taken.

(b) In this case two youths were out hunting with one rifle. Something happened to the gun, and while the owner was attempting to fix it the gun discharged and fatally injured his companion. The lack of care, either in pointing the gun or getting in line of fire, is obvious.

(c) A newspaper report of this accident baldly states the old story of a gun raised and pointed in a "spirit of fun". The gun, of course, was empty, but when the trigger was pulled there was a report, and another life had been snuffed out.

(d) The hunter in this case saw something moving in the bush, raised his gun and fired. The object dropped immediately, and when the hunter went to view his prize he found his father-in-law, with whom he had been hunting, lying dead.

(e) Three youths set out in a car on a rabbit hunting expedition. Driving along a country road they spied a rabbit. The car was immediately stopped, and one of the youths ran forward with his gun. Shortly thereafter he heard a report, and thinking a companion had shot the rabbit he turned around in time to hear him exclaim, "I've shot myself". It appears that the gun had been on the back seat with shovel, and when the youth grabbed it the trigger caught on the shovel, with fatal results. The law distinctly prohibits the carrying of loaded firearms in an automobile.

(f) Two brothers had been on the trail of a wolf for some time when they suddenly saw their prey resting on a log. One of the men circled behind, the other approached from the front. The man approaching from

the front fired, and the wolf toppled over dead, but at the same time there was a cry of agony from the other man. Rushing over to see what had happened he found that the bullet which had killed the wolf had entered his brother's body. The wounded man was still conscious and they discussed the situation. Before help could be procured, however, he was dead.

There are also the usual accidents caused by stumbling, slipping on icy roads, jumping ditches, handling guns by the barrel, and a variety of other causes too numerous to detail here. As we already remarked, most of these accidents might have been avoided by the exercise of due care, having in mind that a loaded firearm is at all times a source of potential danger.

The following rules, if closely observed, will prevent accidents and save many a heartache.

1. Treat every gun with the respect due a loaded gun. This is the cardinal rule of gun safety.
2. Carry only empty guns, taken down or with the action open, into your automobile, camp and home.
3. Always be sure that the barrel and action are clear of obstruction.
4. Always carry your gun so that you can control the direction of the muzzle even if you stumble.
5. Be sure of your target before you pull the trigger.
6. Never point a gun at anything you do not want to shoot.
7. Never leave your gun unattended unless you unload it first.
8. Never climb a tree or a fence with a loaded gun.
9. Never shoot at a hard, flat surface or the surface of water.
10. Do not mix gunpowder and alcohol.

The Economical Value of Sport-fishing

The housewife who pays 15 or 20 cents a pound for fish in the neighbourhood market gets the break every time over the sports fisherman who fishes for the fun of it and pays, for every piscatorial item he brags about, an average of from 3 to 5 dollars a pound.

Unofficial estimates in sports-fishing circles hold that 13,000,000 sports fishermen spend more than \$1,000,000,000 a year for the privilege of getting out into the waters and "tryin' the ol' fam'ly luck". Fishing licenses, these sources estimate, cost them more than \$10,000,000; tackle equipment, \$35,000,000; transportation, hotel quarters, food, gasoline for automobiles and launches, hats, coats, shirts, jackets, trousers, boots, overcoats, tents, cots, blankets, and miscellaneous odds and ends total more than \$955,000,000.

Sports fishermen sell no fish, so they derive no profit from their efforts, and they outnumber the men engaged in commercial fishing, 80 to 1.

Recreational fishing as a sports industry is said to top all sports, including golf, baseball, tennis, football, skiing, polo, basketball, hockey, ice skating, hunting, swimming, and roller skating.—*Current Conservation*.

Take Care, Young Fellow

Just a minute, Brother Nimrod, afore you're on your way,
For it isn't very often this old-timer has his say.
Advice is often taken, but forgotten in the hunt,
So heed a word of wisdom from this rabbit-chasin' runt.
A gun is mighty handy when a pheasant's in the air,
Or Blackie Bruin is heading for the safety of his lair,
But that old shootin' iron is a tombstone in disguise,
If a fellow doesn't watch his step or thinks himself too wise.
A fence is built for safety until gunners take the trail,
And then the thing's as deadly as any darn third rail.
A shiny huntin' rifle fills a gunner's heart with glee,
And little tots will crowd around to see it on his knee,

But mark my words, young feller, that rifle brings dismay
When kiddies' little fingers upon its trigger play.
Don't point your gun at buddies just to feel its hidden might,
For Death makes no exceptions of a gunner's oversight.
Don't say it isn't loaded when it's handled by a friend,
Make sure the breech is empty, or your friendship ties will end.
Hold tight that trusty rifle, it will stand you in good stead,
When in the forest brush appears a deer's majestic head.
But drop that gun upon the ground or bump it on a post,
And you will never see again the ones you love the most.
So take a tip, young feller, from a rabbit-huntin' runt,
Take care and you will long enjoy the glories of the hunt.

—HAD DISON,
Evening Public Ledger, Philadelphia.



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

November and December
1940

HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

Hon. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Carry On, Canada

THIS has been one of the most tragic years in the history of the world. Brutality and brute force have decimated a large part of the Continent of Europe, and the savage onslaughts of ruthless despotism have subjugated whole nations of innocent people and made them slaves of their oppressors. World domination was the dream which inspired this orgy of banditry, and the shattering of every international convention provided a measure of initial success.

Since those grim early months the tide of events has ebbed and flowed, and the course of the struggle has resulted in the British Empire being left to fight the aggressor alone. In its effort to defeat Britain the enemy has resorted to indiscriminate bombing, ruthless submarine warfare and territorial expansion through diplomatic intrigue inspired by force. The list of countries which have fallen by the way is formidable enough to make the world gasp in amazement. Norway, Denmark, Holland, Belgium, France, Poland, Czecho-Slovakia, Austria, Hungary and Roumania.

London, the seat of Empire and the most interesting city in the world, has been pounded by day and night for months in an effort to break the morale of its people. Historic landmarks have been razed or partly destroyed; much of the city lies crumpled in its own dust, but the people of London, and the other cities which have suffered a like fate, carry on with that indomitable courage which is characteristic of the race.

Through the dark days of the blitzkreig, and all it implies, Britain has remained steadfast and unshaken. The Empire air forces have shattered the invasion plans of the enemy and are now disrupting his war industries and transportation routes with telling effect. The navy has kept open the sea routes of the world, and British shipping passes to and fro despite submarine and bomb. A well-equipped army guards the island fortress and the outposts of the Empire, while organized industry, geared to high speed, is doing a splendid job under difficult conditions. The war has not been won. There are still dark days ahead, but the Empire is united as never before, and its resources of men and material are lighting the way to complete success.

And so, as the old years closes, we find new hope in accomplishment, renewed confidence in final victory and fresh courage to carry on to the end.

The Fur Industry

The fur industry was the pioneer industry of this nation. It was the trapper and the fur buyer, more than anyone else, who explored the unknown hinterland, mapped its waterways and overland routes and discovered the vast possibilities of the new land. The early history of the country is the story of adventure and romance associated with the fur trade; the bickerings and quarrelings of rival trappers, the fight for control by competitive companies, and the opening up of trading posts throughout the country. These were the days of the gentlemen adventurers, and fur was the incentive which led to the making of history.

The fur-bearers of the Province are, of course, not as plentiful as they were in those pioneer days when Mount Royal was a trading post, and Toronto little better than a stockaded encampment. For one thing, advancing civilization has usurped much of the natural habitat, and the intensive trapping over a long period of years has slowed up reproduction. Nevertheless, an annual toll of between 750,000 and 1,000,000 pelts of various fur-bearing animals are taken each season in the wild.

The protection of fur-bearers through law enforcement occupies a large part of the time of the field officers, particularly in Northern Ontario. That a great deal of illegal taking and handling goes on is evidenced by the fact that at a recent public sale held by the Department some 1,605 confiscated pelts of various kinds were sold and the sum of \$18,902.40 added to revenue.

The production of fur, however, is no longer dependent upon the trap line or the trading post. Fur farming has become a most important adjunct to the industry, and a wide variety of pelts are now being raised in captivity.

The Dominion Bureau of Statistics has just issued an advance report on the fur farming industry of Ontario, the Prairie Provinces and the Yukon Territory for the year 1939, and the figures quoted are taken therefrom. Ontario leads the way in the number of such farms with a total of 1,481, almost double its nearest rival Manitoba, with 793.

The following table shows the extent and variety of these operations, and represents the fur-bearing animals on farms within the Province of Ontario on December 31st, 1939, and their estimated value.

<i>Kind</i>	<i>Number</i>	<i>Value</i>
Silver Foxes	18,170	\$864,723
Cross Foxes	158	3,280
Red Foxes	105	689
Blue Foxes	217	17,957
Freak Fox	1	300
Mink	31,492	686,490
Beaver	32	1,525
Fisher	24	2,745
Fitch	49	365
Karakul Sheep	22	635
Marten	19	1,460
Muskrats	2,916	4,093
Raccoon	215	902
Nutria	153	4,790
Skunk	6	11
Total	53,579	\$1,589,965

The economic value of pelts has declined somewhat during recent years due to many causes, including the depression and the international situation. Another factor, however, is the up-to-date methods of manufacture which enables the furrier to take almost any pelt and, by the process of cutting, dyeing, plucking, etc., produce furs for milady of remarkable beauty at prices to suit the complete needs of the social scale. Because of this ability to materially alter the form and texture of the so-called cheaper pelts these classes have held a fairly steady value, while aristocrats like the silver fox have tobogganed to a new low.

An interesting article on the transformation which can be effected in furs appeared in a recent issue of Colliers Weekly, from which we have gleaned much of the information which follows. The pith of the matter is contained in the opening paragraph.

"It's the treatment of furs which is making fur fashion news today. Clumsy, bulky pelts become soft and easy to drape as the furriers cut and shave and manipulate them. Drab colours vanish under the blender's brush. Sturdy, hard-wearing furs like raccoon and muskrat and skunk, which are low in cost because they are abundant and are native to America, are getting the same careful grooming mink has always received, and the result is beauty at every price."

Before the advent of the automobile for general use, when the cutter was the family means of transportation and the thrill of romantic couples, coon coats were extremely popular. They also had a vogue with college boys, who buried themselves in them and from the grandstand yelled encouragement to the home team. Well, coon coats as we knew them have almost disappeared, but the raccoon pelt, though of small value to the trapper, can, through the manipulations of skilled artisans, be made "a thing of beauty and a joy for ever". The furrier takes the pelt, cuts it into diagonal strips, resews the strips and, presto, instead of just an old-time coon coat you have a coat that "falls with the grace of silver fox". Then "the blender dips a long feather in a pot of dye and brushes it over the let-out raccoon skins, concealing the yellow, emphasizing the black, and blending it with the gray, giving the fur an imperceptible bluish undertone that makes it sparkle". He can, in fact, give it any tone fashion demands, converting one of the cheaper pelts into a valuable piece of merchandise.

The process of blending, by means of dyes, is an important factor in the manufacture of furs to suit all tastes and purposes. By this method, which is a highly skilled job, the blender can take a pelt, and, by dexterously applying the proper colourings with the aid of brush and feather, make it appear "what it ain't". For instance, that lovely lynx coat or platinum neckpiece may have originally been white fox; that glistening hudson seal coat was created from the common muskrat; while beneath such high-sounding names as Baltic White Fox, Chinchillette, Mendoza Beaver and Polar Seal, will be found a rabbit or hare skin.

Speaking of muskrat emerging as Hudson Seal, it is interesting to note that the transformation requires seventy-odd different stages of processing and manipulation before it finally attains its pleasing lustre.

This progressive development of a pioneer industry ensures for the

trapper and the fur farmer a constant and ready market for their pelts. The skill with which the more or less commonplace furs are manufactured into fashionable apparel of practical, or decorative utility, is in keeping with good business practice, for much of the material in its natural state would have little real value in a market which demands beauty as well as variety.

This Is a Free Country

A retired business man whose son had run foul of the game warden for hunting without a license and in a closed area met the officer and proceeded to protest in a haughty and indignant manner against the injustice of a law which placed any restrictions upon freedom of action. His final verbal punch was a solar plexis blow which left the officer speechless. "This is a free country," he declared, "therefore I do not see why I can't hunt where I like, when I like, what I like, and as much as I like without a license." When speech finally returned to the officer, the car driven by the gentleman was rounding a curve and disappearing from sight.

Some sympathy is perhaps due the irate parent, for the indiscretion of his boy was to his mind nothing of any consequence, and to threaten the young man with a visit to the magistrate was a humiliation not to be tolerated. His mental attitude was probably the by-product of his indignation, and yet it seems reasonable to assume that with a proper perspective there would have been no indignation. The boy was old enough to know better, well over the age when he could legally have obtained a license; in fact, when questioned, he had what was expected to be a perfect alibi already prepared, which only led him into greater difficulties.

Perhaps, as a people, we have over-emphasized the ideal of a "free country"—or in our enthusiasm for those democratic principles and institutions of which we are so proud have placed too literal an interpretation on our figures of speech. True, we have freedom of speech within certain limitations; freedom to worship as we see fit; and "government of the people, by the people, for the people"; but even these evidences of our social and political advantages do not constitute unbridled liberty to do what we please, when we please, etc. As a matter of fact, the freedom we do enjoy would not last long were it not for the fact that we are held in check by the limitations provided by law. Freedom without control would result in anarchy in its worst form. All this, of course, is rather elementary, and we would probably not have referred to it, except that it gives us an opportunity to emphasize once more the necessity for the restrictive laws which are in force if we are to continue to take advantage of the economic worth of our wildlife assets, and enjoy the recreational possibilities which they afford.

There was a time, half a century or more ago, when the protection afforded wild life in this Province was very weak. Restrictions on the right to take game and fish were few, and those that were in force were seldom enforced. As a result a condition existed which almost conformed with the ideas of the gentleman to whom we have previously referred. Those who had no respect for the prevailing laws simply hunted when they pleased, where they pleased, and without any regard for consequences. Game of

all sorts was slaughtered indiscriminately and placed on the market legally, or by bootleg methods. Fish were taken in huge quantities in and out of season and by all kinds of destructive means. The following brief quotation from a report published in 1869 gives some idea of what happened. It has reference to the Atlantic Salmon which once were to be found in large numbers in certain Ontario streams, and, speaking of one such creek in Durham County continues: "In early times it was famous for salmon, great numbers of which frequented it every autumn for the purpose of spawning. They were so plentiful forty years ago that men killed them with clubs and pitchforks, women seigned them with flannel petticoats, and settlers bought and paid for farms and built houses from the sale of salmon." You will observe it was a ruthless slaughter carried out at the time when the salmon were engaged in reproducing their kind. It is needless to add that the salmon have disappeared from Ontario waters.

From the report of the Ontario Fish and Game Commission which investigated the situation and reported in 1892 we have extracted the following pithy paragraphs:

"It would have been well, if the Commission which is now making its report, had been issued years ago."

"On all sides, from every quarter, has been heard the same sickening tale of merciless, ruthless, and remorseless slaughter."

"Where but a few years ago, game was plentiful, it is hardly now to be found, and there is great danger that, as in the cause of the Buffalo, even those animals which have been so numerous as to be looked upon with contempt, will soon become extinct."

"In many places where game animals formerly abounded, large cities stand today; the clearing of the land, the cutting down of the forests, the introduction of railways, the ravages of the wolves, the indiscriminate hunting of the human assassin, and the use of dynamite and net, have all contributed to the general decrease of the game and fish of the land. This is to be regretted, and is indeed a deplorable state of affairs, not only from the sportsmen's, but from an economic point of view."

There, in a few brief paragraphs, is a word picture of the conditions which existed less than fifty years ago, when controlling laws were few and enforcement practically non-existent. It is pertinent to point out that the commission strongly recommended restrictive laws and regulations and the appointment of a force of permanent field officers to see that they were enforced.

From this picture of wasteful destruction and depleted resources we turn to the situation today, not without pride. For more than a quarter of a century the game and fish laws of the Province have been progressively built up and amended to take care of the protection and development of the resources, and in keeping with modern methods of conservation. They are not framed with any particular desire to restrict the civil liberties of the sportsman, but are intended to safeguard what is, after all, a public heritage from the painful consequences of unbridled destruction. They provide for protection and reproduction through open and close seasons; bag, creel and size limits, etc., while at the same time ensuring an equitable distribu-

tion of the available supply. Their enforcement has not been left to chance, for there is now an effective and efficient force of game overseers continually in the field to prevent illegal taking and to see that the Regulations are respected.

We believe the depletion which threatened many of our waters fifty years ago through excessive and illegal destruction has been largely halted, and that the protection afforded them and the conservation measures in force have resulted in restoring these areas to a condition approaching normal. There are many thousands more anglers fishing in these waters today than ever before, and yet the consensus of opinion based on last season's activities is that angling generally throughout the Province was good. One reason for this is that the angler himself is now interested in fish from the standpoint of recreation rather than the mere catching of fish, and his sport has well-defined laws and ethical practices which he willingly observes. These laws provide the restrictions already referred to, and have served to add to the pleasure which well-stocked waters afford.

In the matter of game, large and small, it is generally agreed that, making allowance for the growth and development of the country which has seriously affected environmental conditions, there is a wider variety now available than at any time during the past quarter of a century. For example, the ringneck pheasant, the hungarian partridge and the jack rabbit have been added to the list of available game, and the other species of native game birds and mammals have maintained their numbers fairly successfully. Deer in the southern section of the Province were once very scarce, but thanks to protection and close seasons are now extremely plentiful. In the northern section the herd is just as numerous as ever. Here are two extracts from letters recently received by the Department. The first is from a non-resident and is dated from Green Bay, Wisconsin, November 2nd, 1940. It reads: "Was deer hunting in Canada a few weeks ago and had a successful hunt and enjoyed myself very much. Had non-resident deer license No. 4791. Also had your game warden —— check on our party. Glad you have someone on the job. Plan already on another hunt next fall." The other is from a resident of the Province. It reads: "The boys have had a good season for the hunting, and the undersigned knocked over 23 out of his allocated 25 grouse, so will call it a successful year." In this connection it is a significant fact that while the tourist trade generally was down considerably over last year, the numbers of non-resident angling and hunting licenses show an increase over what was a peak season last year. This would seem to imply that the abundance of our fish and game resources is still recognized.

This condition is the result of reasonable restriction, not freedom to hunt or fish indiscriminately, plus the restoration which has been effected through protection and propagation—artificial and otherwise.

Freedom in its literal sense is a myth; we are free only insofar as we conform to the laws of the land, and without these laws there would be no real liberty. Sportsmen themselves have suggested many of the laws affecting fish and game, and the soundness of their judgment is demonstrated by the results.

Having said all this, however, we still find it possible to suggest a measure of personal freedom for our friend who feels he should be able to hunt where he likes without a license.

The law provides that farmers residing and hunting on their own lands—during the proper open seasons, of course—require no license. Even here there are certain exceptions, deer for example, the shooting of which requires a special license.

The Pheasant in Winter

The pheasant shoot is over for another year, and until the season rolls around again the ringneck will be just another game bird seeking to find its proper environment and reproduce its kind in a world which, for several months at least, is cold and inhospitable. The pheasant is not a migratory bird; it does not go south to the green pastures which are there available whenever the threat of approaching winter makes life in these parts less desirable. It is not adapted for extensive flights, and being an exotic or non-native species it must take things as it finds them. Unfortunately it is not always easy during a severe winter for it to find food, far less take it. At this season of the year it subsists largely on weed seeds, wild berries, etc., but when the snow becomes deep and frequently frozen over, its larder is temporarily closed, and it becomes necessary for it to seek the hospitable surroundings of the farmyard or the neighbouring cornfield. In its native environment it would not have such severe conditions to contend with, and the question of food would not be a serious factor in its survival.

It should be noted that it is starvation rather than the exposure to severe winter weather which is likely to take toll of the pheasant population. Well-fed game birds are fortified against cold, but lack of food for a few days, or a shortness of food over a long period, may kill the birds or render them so weak as to be susceptible to disease and other misfortunes common to wildlife.

The most critical time for the pheasant is that period of mid-winter when, as already remarked, the snow is deep and vegetation is covered with an icy crust, completely locking up the natural food supply. Foraging becomes very difficult under these conditions and the pheasant must seek a new source of supply. Many of them move boldly into the orchard or the farmyard, where food of some kind is usually available and where they are considered welcome visitors by the farmer and his family.

In addition to the farmer many sportsmen and Nature lovers go to a great deal of trouble and expense to provide food for the birds during the worst part of the winter. The Department also distributes grain where and when necessary. With the help which it gets from these different sources the pheasant is enabled to withstand the rigours of our winter climate and has become well-established in a large section of southwestern Ontario.

We are frequently asked about feeding shelters; how to make them and the best locations for most effective use. The location is most important, because no matter how elaborate the shelter or how much food is available there, it will be ineffective unless placed where birds are known to frequent and preferably within a very short distance of suitable cover. In other

words it is unlikely that the birds would find the food unless it is placed within the compass of their winter peregrinations, which are much more limited than during the summer. Those who are interested enough to feed them, however, usually know where they are to be found.

The sportsman must assume a certain amount of responsibility for protecting and feeding the birds when climatic conditions make this necessary. He is the man who is most interested in their survival in such numbers as will make the sport of hunting attractive. We are glad to note that a great deal of effective work along these lines is done by many of the sportsmen's protective associations as well as individual sportsmen, in addition to the free-will offerings of the farmer. The future of upland game bird hunting will be greatly improved if every sportsman will take an interest in the conservation of the resources.

The kind of feeding shelter is quite immaterial provided it will protect the food from the elements, and if at the same time it affords the birds a measure of protection while using this temporary cafeteria, so much the better. It takes no great ingenuity to make a tepee of branches, or a leaning shelter against a bank, or to roof over any suitable spot which will afford protection and a means of escape if necessary. All kinds of more elaborate shelters will readily suggest themselves to the outdoorsman, but the general idea is to provide food for the birds, not shelter.

Know Your Geese

At the time of writing the nimrods who are interested in wildfowl still have a last opportunity to bag the Christmas dinner by taking advantage of the delayed wild geese season in the Counties of Essex, Kent and Elgin. This opens November 1st and closes December 31st. There is a good reason for this special season in these counties, and it is the fact that they are about the only counties which, under normal circumstances, are in the line of the migratory flight, and the late season coincides with the arrival and departure of the birds on their way south. Everyone is familiar with the Jack Miner Sanctuary in Essex County where thousands of geese stop each year for varying periods on the northern and southern flights. This concentration of birds in the district results in spreading the flight over a fairly wide area and gives the sportsman an opportunity to bag a few of them during their flights between the lake and their feeding grounds, before they finally take off for the sunny south.

Geese are equally at home on land and water. They feed largely upon grasses and are partial to cultivated areas during migration. It is a common sight to see hundreds of them feeding in fields but keenly alive to every approaching danger. They are exceedingly wary, and no matter how busy the flock may be, you will invariably find sentinels with head and neck erect keeping a sharp lookout for the first sign of an enemy, and ready to warn the flock. In the water they secure their food from the bottom by tipping and reaching down by means of their long necks.

The flight of the geese is of such a spectacular nature that it is familiar to most people, if not by actual visual evidence, then as a result of the pictorial and descriptive matter for which it provides a pleasing theme. It

has two prominent characteristics; the V-shape formation assumed by the flight and the hoarse honking which is peculiar to the geese.

In keeping with our recent article on how to distinguish many of the ducks, we offer herewith a brief description of the various species of geese by which they may be identified.

Canada Goose

The most important, because it is the most numerous, is the Canada Goose. It is readily recognized by its large size and its black head and neck relieved by a white patch on throat and cheek. In flight it displays a white V over the tail.

The Canada Goose is extremely cautious when it comes to protecting itself, and for this reason has suffered less from hunters and survived in greater numbers than any of the other species. Between flights it spends the day well out in the open water and comes in at night to feed in the marshes and cultivated fields. The vigilance of its sentries while so employed makes it very difficult for anyone to approach the flock.

Snow Goose

The Snow Goose is not so common in Ontario as the Canada Goose, but is still frequently seen during migration. As its name implies it is snow white over its entire plumage except on the wing primaries, which are black. It is smaller than the Canada Goose, and because of its colouration no difficulty should be experienced in identifying it. There are two sub-species of this goose, known as the Greater and the Lesser, but the sportsman can forget these nice distinctions as the difference is mostly one of size, and even this is not entirely reliable.

Blue Goose

The Blue Goose was long thought to be merely the young of the Snow Goose, which develop the snow-white plumage in the adult stages of growth, but is now recognized by ornithologists as a distinct species. It has a white head, in contrast to the black head of the Canada Goose and, generally speaking, a slaty-grey body, this colouration being most pronounced on wings and rump. This particular combination of white head and blue-grey wings is distinctive and does not occur in any of the other geese.

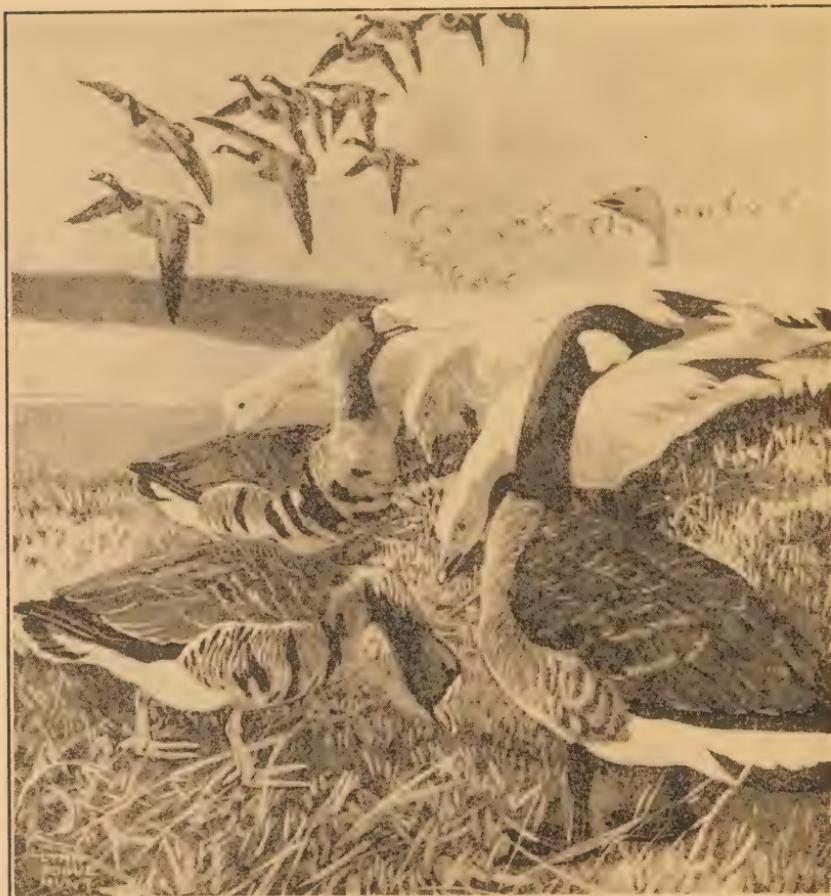
White-fronted Goose

The White-fronted Goose is a casual visitor which usually migrates through the interior of the continent, and is uncommon as far east as the Great Lakes. The prevailing colour is greyish-brown, which is darker on head and neck and much lighter below. The greyish-white of the lower parts is mixed more or less with irregular blotches and spots of black. A distinguishing marking is a white patch on its face.

Brant Goose

The Migratory Birds Convention Act which governs wild fowl hunting in the Province decrees a close season on the Brant Goose, and it would, therefore, be well to include it in these brief sketches, although, if it appears in Ontario at all it is only as a straggler. It is not unlike the Canada Goose

but much smaller. The head, neck and upper breast are black, lightened only by a narrow, broken collar of white on the neck. The back is much paler than the head and of a brownish shade, while the anal region is snow white. In flight it displays a white V over the tail as does the Canada Goose, but its small size will readily distinguish it from the latter.



White-fronted Goose

Greater Snow Goose

Canada Goose

The Whistling Swan

While on the subject of wild fowl it would not be inopportune to complete the picture by a brief reference to the Swan. Because of its size and graceful appearance, in addition to the fact that it has always been featured in fairy tales and folk lore, the swan is well-known to children as well as adults. It may not have occurred to many people, however, that it is still quite common in Ontario, although completely protected by law. It

is, of course, a spring and fall migrant, stopping only in these parts to rest during its annual trips to its breeding grounds in the far north or its winter home in the south. During its brief sojourn it is extremely wild and wary, more so even than the Canada Goose, which is very difficult to approach. Even if there were an open season on swans the hunter would find great difficulty in bagging them because they fly very high and are rarely to be found near the shore where the hunter, from his blind, might be in a position to shoot them. As a rule they fly in flocks during the night and rest in open water far out of reach of guns.

They are frequently to be seen in large numbers on the Niagara River, where the tragedy of the swans has provided newspaper headlines at annual intervals for many years. It appears that the birds land on the upper reaches of the river to rest during the spring trip to the breeding grounds, and are carried down by the swift current to almost the brink of the Falls. When the swans discover their danger they struggle into the air and fly upstream, only to land in the same treacherous waters to be swept into danger again. This procedure may be repeated several times, weakening the birds until eventually many of them are carried over the Falls. Hundreds of swans have lost their lives in this manner.

The characteristics of the swan are too well known to require more than a reference. Its entire plumage is pure white, while its feet and bill are black. It is our largest all-white bird and its long neck gives it a conspicuous appearance.

In America swans are known by two common names indicative of their vocal powers: they are the Whistler and the Trumpeter. The Whistling Swan is the species common to Ontario. The difference between these two is more vocal than physical. The Whistler is smaller than the Trumpeter, but as adult development is not complete for several years size is not a safe means of distinguishing them. There are certain minor differences between the two which will show up under expert examination, but, as a matter of fact, the two can rarely be separated with any certainty without a modified post mortem examination.

Lesson to Remember

By Stuart M. Boggs

(*Editor's Note—In keeping with our remarks in the last issue of the Bulletin with regard to the need for care in the use and handling of firearms we print the following little true-to-life yarn, with acknowledgments to the author. Experienced hunters will recognize the excitement, the buck fever, and the temptation involved but carefully avoided. It carries its own moral.*)

My old home was deep in the Blue Ridge. At the turn of the century I was still a kid in knee pants, eleven years old. For three years my father had been teaching me how to hunt.

He was one of the all-time deer shots of the Blue Ridge. His kill over a period of some forty years numbered more than sixty deer.

My first year of schooling was spent as an observer. The second season I carried a single barrel shot-gun of cheap make, 12-gauge, loaded with a

"pumpkin ball". I carried five extras in my pocket. This supply **MUST** last the season—30 days of deer hunting. We were taught not to waste ammunition.

We did not get a deer the second season of my training, which was spent mostly still-hunting in the valleys. But one afternoon, on a cloudy, cold day during my third season, a spike buck came down off Still House Hill, feeding along a bench near Birch Run. We were more than three hundred yards from the buck, which was browsing on teaberries and acorns. It was jittery at times, a blue-jay, or "ramrod" bird, as we called them, having spied us.

Father explained that the distance was too great for his .44 Winchester and my single-barreled 12-gauge pumpkin. With evening upon us, our best bet was to close in on him, through the laurel, cross Birch Run and up the ridge. Father thought if the buck winded or heard us he would break back over the hill, or across down by the old saw-mill.

A cold, icy wind was blowing from the northeast.

"Now you start over the bottom," my father directed, "keep that wind in your face, and make as little noise as you can. I'll go down by the chestnut tree and stand and wait at the saw-mill. Remember your wind direction. Keep it a-blowlin' in your face and be careful fording the run. Open your gun. What if you don't get a shot? Be CAREFUL! That old dead pine will guide you to about where he'll be feeding when you get across. Don't shoot until you see the deer, head, body and legs. And don't shoot in my direction. I'll be within two hundred yards of you, right down there"—father pointing to a clump of spruce pines that grew on a knoll near the old abandoned saw-mill that some twenty years before had been a busy logging camp.

So, with buck fever creeping over me, I started after the spike buck. Upon reaching Birch Run I broke my gun, crossed the stream and crawled up the steep bank to the first bench on Yellow Ridge. A bit winded, I sat down on the pine bristles to rest and give father time to make his stand at the old saw-mill.

"Dad ought to be down there by now," I thought to myself, after a five-minute rest. But before I could get to my feet, the brush cracked to my left. I could see something moving in the thick pine oaks, not more than forty yards from where I sat back of a small spruce pine. My heart-beat must have risen to 130 and by blood pressure to 200. "That's the buck" I almost said aloud.

Then all was still. As I slowly rose I could hear my heart beat against my leather jacket. For ten minutes I never moved—it seemed a year—as I waited, waited for the buck to move to an opening where I could be sure it was a deer.

Again the brush cracked and, kneeling, peering under the spruces here and there I saw an object—but was it the deer? I wasn't sure, although several times I thought I saw the top of his back move in a clump of oaks, the brown leaves blending with the winter coat of the spike buck. Motionless I stood, while a cold, clammy sweat broke out on my forehead and my hands got painfully cold.

I could hear him walking in the dry leaves, moving toward my father on his stand at the old mill. They became faint, and finally all was quiet.

It had been agreed that should neither of us see the deer, father would whistle for me to come down to him. After silently standing for more than fifteen minutes I heard my father's call. I knew it was then too late, with dusk setting in, to be able to distinguish a deer more than twenty yards away, even if I did run into him.

So, when I got near to where father told me he would be, I heard men's voices.

"Well, son, I guess we missed the 'spike' that time," said father as I came out in an opening. "Where did he go?"

"I don't know where he got to; but I saw him all right—right back there in the pin oaks on that bench where we first saw him from across the bottom. I almost shot him when I saw his back and the brush move. Couldn't make out for sure, though. Gee, Dad, was my heart pumpin' while he was walking around in the brush. Seemed like a year, and I got a sweat all over me, sort of a cold, sticky sweat."

"Ha! Ha! Buck fever, my boy. But I think you will make a careful hunter. I am sure glad you didn't shoot. Never, never point your gun at anything unless you know what it is. Always wait until you see your game from head to foot. Suppose you had shot at that moving object back there?"

"Well, I didn't, did I? Say, who were you talking to a few minutes before I got here? I heard men's voices?"

"Why, that was Charley Corgins. He came over the hill to take a short cut out of the mountain. That was Charley Corgins you heard and saw, and not the spike buck. Just think, think, my boy, what a 'pumpkin' would have done to Charley."

"Well, I didn't shoot, did I?" was all I could say, or think.

Then, as an after-thought, "why did he wear brown clothes that look so much like a deer. Why doesn't he wear some bright colour so . . . ?"

"But do you, or I, or any of the other hunters wear anything but khaki?" father broke in.

"Young man, I hope this is a lesson for you. I am satisfied my training has been worth while, otherwise we would have a dead man or a badly crippled hunter on our hands instead of a spike buck that you thought you saw moving in the brush.

"Come on, let's go home. It's getting dark and I'm hungry. Three miles to walk, too."

So that night when I went to bed, tired and nervous, still thinking of what might have been a tragedy in the woods, with a hunter's life on my hands, my father came to my room, and patting me on my back said:

"Son, I am proud of you. . Go to sleep now and forget all about your first chance at shooting a deer. Always WAIT until you SEE what you are shooting at. Never shoot at an object in the brush, or anywhere until you are positive."—*Pennsylvania Game News*.

Reflections

It was the festive season. The room was bright with the tinsel and glitter of Christmas decorations, and the fire in the grate was radiating a cheerful warmth. Enсonced in my favourite chair I was gazing dreamily into the friendly glow while contentedly puffing a mild "two-fer"—two for five—and living again the fight with that big bass which snapped my line and disappeared with a victorious flip of its tail. Again I found myself edging my way carefully through a small hardwood bush, with my rifle ready for instant action, to emerge into a clearing in time to see the flash of at least half-a-dozen white tails leaping for cover and safety. Then, in the mood of the moment, I realized what a splendid heritage was mine; the opportunity to freely and fully enjoy the grandeur, the beauty, the spirit and the recreational pleasures of the out-of-doors. I began to take stock of myself, as men will do when in the proper mood for self-analysis, and the examination proceeded somewhat after this form.

They call me a sportsman because I have inherited a love for rod and gun and the great out-of-doors; because I thrill to the taut line and singing reel, and count the hours afield as among the most pleasing in life. Do I deserve the appellation, however? Am I a sportsman merely because I love to fish and hunt, or does the title carry with it any obligations or responsibilities on my part?

I know from the dictionary that one skilled in the sports of hunting and fishing is a sportsman, but I also know that a "good" sportsman is one who plays the game fairly. Obviously, then, I may be a sportsman in the literal sense of the term without displaying any of those qualities of heart and mind upon which the standards of sportsmanship are judged.

I am a sportsman! But, on the stream or in the field do I display those qualifications which would entitle me to be classed as a good sportsman? Do I respect the laws which regulate the sport? Am I careful to conform to those ethical practices which are the unwritten laws of the outdoors and which are designed to give the game a chance and ensure the rights of my fellow sportsmen? Do I practise conservation, or am I prodigal in my taking and wasteful in my general attitude towards the resources which are an essential part of my sport?

It was a searching examination, but the answers must remain a personal secret. I am convinced, however, that the perpetuation of those advantages which sportsmen in this country enjoy are the responsibility of all sportsmen. With this in mind I suggest that it is the duty of a sportsman

1. To make himself familiar with the laws and regulations and observe them without equivocation.
2. To uphold and co-operate with those who administer and enforce the laws.
3. To exercise self-restraint in order to conserve the resources.
4. Never to endanger human life in the field or elsewhere through the careless use of firearms.
5. Respect the rights and feelings of those upon whose lands he may be privileged to hunt or fish.

Males Are All Alike; Whether Birds or Humans, They Strut

A comparison of the courtship of various species of birds discloses the fact that though the technique differs somewhat, the end result is the same: The male does his best to impress the female with his beauty and importance.

There's a reason for the strutting, however. The males, almost without exception, have feathers of gaudy colours, while the females are usually of drab hue.

Ruffed grouse, for example, breed late in winter or early in spring. The male usually places himself on an old tree trunk and proceeds to make a noise resembling that of an old-fashioned engine being started in the distance. This sound is called "drumming" and was thought to have been produced by the wings beating on the sides of the body or the log. Motion pictures, however, show that the bird makes the sound by fanning the air.

The Canada spruce grouse and the ring-necked pheasant are definitely strutters. The grouse struts about with his red eye partly distended, the breast feathers fluffed, the wings lowered, and the tail spread and raised. He, too, resorts to drumming, but the sound is more subdued than that made by the ruffed grouse and it is usually produced while in flight. Instead of drumming, the pheasant cackles.

The woodcock and the Wilson's snipe, might be termed "show-offs". The woodcock goes to the singing grounds in the evenings, where he utters a series of nasal, buzzing notes. Then he rises swiftly into the air, giving a characteristic whistle produced both by wings and vocal means. After circling in the air from 100 to 300 feet above the singing ground, he suddenly plummets to earth in a graceful series of zig-zag movements and returns to the spot from which he took off. He immediately repeats the performance.

A male Wilson's snipe likewise performs by gliding back to the take-off point, but this bird embellishes his routine by breaking the flight with slight downward dips. A snipe may sustain the series of dipping and soaring for as long as an hour at a time.

More boisterous are the waterfowl. The black duck courtship takes place both in the air and on the water. The male pursues the prospective mate in the air and suddenly drops into the water, where he splashes and swims about while carrying on vigorous quackings.

Similar to the antics of the black duck are those of the male blue-winged teal and wood duck.

In common with most waterfowl, the bufflehead confines its courting to water activities. The male displays his feathers, swims, dives, and makes brief circles around its prospective mate. At the same time it attempts to intimidate other males in the vicinity. The American goldeneye and the ring-necked duck are like the bufflehead, except that sometimes a goldeneye male leaps out of the water in what apparently is its eagerness to perform before the female.

What the females think about the "show-off" males is not disclosed.

—U.S. Bureau of Biological Survey.

A Prayer

O Lord,
* As the old year
 Quietly draws to a close
 And we sit with our memories—
 We most gratefully thank Thee
 For Thy manifold blessings.
We thank Thee
 For the woods and the waters
 And for many happy hours,
 Spent in field and on stream.
We thank Thee
 For the birds and the flowers,
 The sunsets over dark woods,
 And the joy of being alive
 To know these moments
 In Thy gardens.
We thank Thee
 For our code of Sportsmanship
 And the friends who taught us
 To love these things.
 And most humbly pray,
 If there be some place of Immortality—
 We may feel again the handclasp
 Of those friends who have gone on—
 Around the bend. Amen.

—*Pennsylvania Angler.*

* Adapted, with apologies.



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

January and February
1941

HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Guest Editorial

LET there be no blackout in conservation! As the state and nation move to give their greatest efforts and energies to national defense, it is important to watch for a slackening interest in the field of conservation. In times like these, a concentration of interest in a subject so vital as national defense is liable to obscure many of the everyday functions of government. Activities which can wait are usually relegated to minor positions of importance down the roster, but the conservation of the natural resources is a matter which cannot and should not wait. In fact, to a very large degree, the effectiveness of national defense depends upon the wise use of the natural resources.

Industry and agriculture will have greater development, but this should not result in unnecessary damage to the resources of the state or nation. However, this is likely to occur unless those interested in conservation are vigilant and militant. The increased production of food products need not be accomplished at the expense of the soil resources, nor should the need of additional tillable soil lead to the unnecessary drainage of meadows and marshes which will eventually affect the water resources of the state and drive wildlife from their natural habitat. As industry increases its output, it must not detract from its productiveness by the pollution of the inland or coastal waters. There is little need to draw upon the timber resources in a manner which will destroy the productivity of forest lands over a long period of time through unwise cutting practices.

As the present world conditions continue or grow worse, this country becomes more and more self-reliant upon its natural resources. It is, therefore, important that all those who utilize the natural resources should redouble their efforts to make sure that the greatest returns are received.

The value of outdoor recreation should not be overlooked during the trying days to come when industrial production will probably be the most notable achievement of the state. If industry is to be productive, its workers must be sound in body and refreshed in spirit, and this is possible only by means of healthful outdoor recreation. The greater the burden on the workers in industry, the greater the duty of the state to provide for this type of recreation. It will pay dividends in the long run.

—Massachusetts Conservation Bulletin.

Page One

Surveying the Wildlife Situation

The end of a calendar year brings a definite business period to a close and gives an opportunity to assess progress and make comparisons. Inventories and balance sheets properly prepared give a picture of accomplishment and the result shows whether or not the business has been profitable, as well as giving an indication of its development.

In the administration of our wildlife resources the Department of Game and Fisheries also prepares certain inventories and balance sheets, but as the fiscal year does not end until March 31st a summary of the general situation at the end of the calendar year will serve to acquaint the sportsman with certain phases of the year's activities in which he is particularly interested.

It is well to remember that in the field of wildlife conservation it is not possible, however desirable it may be, to take an inventory of the natural stock in trade. In some cases surveys might be carried out in designated areas, averages computed and approximate figures arrived at, but even these would fall far short of providing accurate information. The best means of gauging progress and development are the reports from the sportsmen themselves, the field officers who are in close touch with conditions, and the many news items and comments which daily appear in the press. These give a very definite idea as to whether or not the efforts of the Department to build up the resources are meeting with success. Let us indicate some of the work done during the year.

One of the most important phases of departmental activities is the propagation of fish for re-stocking purposes. There are some 27 fish hatcheries and rearing stations located at suitable points throughout the Province, each working at capacity to produce certain varieties of fish. This is a simple statement of fact, but behind it is an extensive organization necessary to the different steps involved in the work. The production and planting of fish necessitates first of all the collection of spawn, then proper facilities for hatching it, the rearing and feeding of the young prior to their disposition, means of transporting the fish to their ultimate destination and a great deal of co-operation from sportsmen and protective organizations in seeing that they are properly planted in suitable waters.

Figures will not be complete until the end of the fiscal year, but up to the beginning of January some 853,574,318 fish comprising twelve different species were artificially hatched and planted in Ontario waters. Compared with last year this shows an increase of some 54,077,689. These figures include commercial as well as game fish.

The sportsman is, of course, particularly interested in game fish, and the following figures will give him some idea of what is being done to maintain the supply. Speckled trout to the number of 3,896,439 were planted during the period. This represents an increase of well over half a million compared with last year. Of the total number some 3,285,264 were yearling and adult fish, which is an increase of over 300,000. These fish ranged from 5 to 8 inches, so that a reasonable proportion of them were of legal size when planted. The angler will immediately recognize the added value

of releasing fish of this size. Some 26,500 yearling and adult Kamloops trout were also released in suitable waters, and as none of this size were reported last year this is an important addition to the supply. The figures covering other species follow:

Small-mouth Bass	2,963,412	Increase —	1,343,250
Large-mouth Bass	235,673	Increase —	233,262
Brown Trout	434,725	Increase —	29,683
Rainbow Trout	318,144	Increase —	184,355
Maskinonge	2,347,333	Decrease —	551,033

The decrease in Maskinonge fry is due to various causes but is more than compensated for by the fact that the experiment of attempting to raise this fish to an advanced fry stage was continued on an even more extensive scale, with the result that some 2,333 of this class were liberated; an increase of 1,000. In view of the great difficulty in raising maskinonge beyond the fry stage the result is very satisfactory.

Anglers will also be interested to note the large increases in the numbers of bass. In this connection it should be remembered that bass cannot be raised artificially; that production must follow the natural process, and that for this purpose, it is necessary to provide both parent fish and specially protected ponds.

We have frequently remarked that the mere releasing of fish will not in itself ensure good fishing. Many factors enter into the development of every species and these must be taken into consideration when planting is being considered. Some of these are environment, food, water conditions, predators, etc. So far as is possible all of these factors receive attention in the final disposition of the fish.

The propagation of game through other than natural methods is a difficult matter. Obviously big game such as deer and moose cannot be raised in captivity in sufficient numbers to justify the heavy cost which would be involved, and even if they could be propagated by such means the result would be a more or less domesticated species useless as a sporting proposition. Game preserves and suitable regulations permit natural development.

Small game such as rabbits require no artificial stimulus provided they are given a reasonable chance to develop naturally. So far southern Ontario has always had an abundance of hares and cottontails, and within the past decade the widespread movement of the jack rabbit has added to the sport. Regulations prohibiting the purchase or sale of cottontails, and limiting the daily bag are now in force in a number of counties in the southwestern district. This will materially assist in conserving the supply.

The propagation of the ringneck pheasant was continued during the year and almost 18,000 birds were liberated in regulated areas and in the extreme southwestern counties where the climate is particularly favourable. For several years this stocking has continued, and as cocks only were permitted during the regular shoots the natural production shows a very large increase.

Enforcement of the regulations was carried on during the period with commendable zeal. In addition to the routine patrols special officers were detailed to make a check during the pheasant and deer seasons, while spawning fish were afforded additional protection through the employment of seasonal men.

Summarizing the conditions which prevailed during the year we find that it was, all told, a most satisfactory one. Reports generally from all over the Province show that angling was reasonably good. The opening of the rainbow trout season was advanced to coincide with that of the speckled trout and those enthusiasts who look forward with eagerness to the first spring fishing had an additional incentive. Many good catches of both species were taken. The policy of planting yearling fish has added greatly to the pleasure and possibilities of stream fishing.

It is not too much to say that bass were very plentiful, and as this is a favourite with anglers excellent sport was provided. The bass waters of the Province are quite extensive and natural conditions have contributed largely to maintaining the supply of this very desirable species.

Pike and pickerel appeared to be abundant in most waters. Both species are eagerly sought after and provide fine sport.

Maskinonge waters are somewhat limited, but many fine fish were taken including a new record one weighing 61 pounds 9 oz., which it will be admitted is "some fish".

Conditions generally in forest and field were equally satisfactory. Deer in southern Ontario are more numerous than they have been for over a quarter of a century, and the northern herd is still providing an army of nimrods with fine sport. It was found possible also to remove the restrictions on moose in certain areas which had been closed.

Open seasons on pheasants and partridge were provided, the former in certain well-stocked townships, the latter throughout the Province. The pheasant has become well-established in many areas and is now as familiar a sight in the country as the hare or cottontail.

The restrictions of the past two or three years on duck shooting have resulted in considerably increasing the supply.

Other species of small game such as rabbits continue to provide fine sport, while foxes are more plentiful in southern Ontario than they have been for many years.

Obviously this is merely a general summary of the situation; the sportsman himself will be able to supply details from personal experience. Because of the war our resources of fish and game will become more valuable than ever, if through them we can induce more tourists to visit the country and help provide the foreign exchange necessary to continue our war effort. As inheritors of such unparalleled opportunities for outdoor recreation of the finest sort we are happily situated and richly blessed. Let us use these resources with wisdom and discretion and they will be perpetually available.

Anticipation and Realization

*The swish of the line
And the song of the reel
The tug of the brownie—
And weight in the creel—
What more do you want
For a winter-time sing
And then a reality
Early in spring?*

The uncertainties of life lend zest to the journey. If the future were all laid bare to us in advance it would undoubtedly cause us more grief than pleasure, and so a wise Providence has decreed that we shall live in joyous anticipation rather than in nervous certainty. It is for all the world like a game of roulette. We control the placing of the bets, but when the wheel of fortune spins, "round and round she goes and where she stops nobody knows"! Until the wheel stops, however, there is always the pleasing hope that our lucky number will turn up.

Anticipation may not always be better than realization, but it really can give just as much pleasure. It is so particularly in the case of the sportsman. The anticipation of that angling trip he has long planned and the thrills his fancy has painted for him are capable of affording the angler just as much pleasure as the complete consummation of all his hopes. As a matter of fact, if it were not for the element of uncertainty which surrounds the sport it would not be nearly as exciting or fun provoking as it is. Given a fish at every cast and the sport becomes a mere slaughter, and catching fish is not the ultimate of the piscatorial art. The anticipation that follows each well-directed cast, the hope that perhaps "next time" a gamey fighter will be enticed to give battle, and the prospect that it may be a record fish, these create a wholesome feeling of subdued excitement which a legal limit of dead fish fails to inspire.

Think it over and you will recall that in anticipating your angling trip your most vivid impression was a picture of a rod bent almost double by the strain of a leaping, surging fish, and the excitement incidental to landing the prize. That is the real joy of angling, and furnishes the data for most of the so-called "tall tales" with which the angler is wont to regale his friends.

Now if this be so it would appear that once the battle is over the prize is merely a tribute to the skill or superior strength of the angler. As an article of food game fish are very palatable, but from the point of view of the angler they afford more real pleasure in the water than in the pan. If this be correct it should be part of the sportsman's creed to limit his take to personal requirements. In a great many cases these will be well within the legal requirements prescribed by law.

In his off-season anticipation of future realities, the sportsman is urged to incorporate the thought, beautifully expressed by ex-President Hoover that: "Fishing is not so much getting fish as it is a state of mind and a lure to the human soul into refreshment."

Natural Resources

"Across the seas millions of men are now in arms in a deadly struggle for possession of the remnants of the natural resources of the two ancient continents. We ought to have no feeling of complacency, but only of humility that our own resources are still so abundant that we are not driven to the desperate expedient of war in order to obtain those things that are necessary to maintain our populations at a standard of living that would be more decent than it is if only we had become conservation-minded earlier and were more conservation-minded even now. We may be sure that our present comparative immunity from the conflicts that are consuming the wealth, culture and vital energy of other nations is not ours because of any superior quality of grace that makes us more deserving.

"We can never assure for America a future of peace and plenty until we renounce the role of squandering inheritors and become economizers and builders. In our handling of our natural resources for more than four centuries we were reckless spenders. Only during recent years we have learned to become earners. We have also learned that this is a nobler way of life."

HAROLD L. ICKES,
Sec'y. of the Interior.

Natural resources are the foundation of national wealth. They are the raw materials provided by Nature which man has developed through skill and foresight into those things which are essential to his existence, his creature comfort or the protection of his rights and interests in them. There is no equality in their distribution. Some countries have an abundance of certain necessities, others have been blessed with a lavish amount of entirely different resources. It is obvious, however, that world trade has made the resources of one country invaluable to other nations, and has prevented each separate country from being self-sustaining within the limitations of its own primary assets. The exchange of commodities and availability of the raw material necessary for their manufacture, has raised the standards of living, advanced the arts and sciences and generally tended to increase the happiness and prosperity of mankind so long as greed and envy have not been permitted to disrupt international relations.

Unfortunately, however, having discovered that certain resources are necessary to fulfil national ambitions, and finding that these are not in large enough measure a part of the national heritage, the totalitarian nations have attempted to take by force that which they covet, in order to ensure what they are pleased to call "national destiny". It is a fact that the unequal distribution of natural resources has always been one of the chief excuses for, or causes of, war. So far no wars have been fought over the majestic but desolate lands of Antarctica, or the equally uninviting islands which border the Arctic Circle. Until now the natural resources of these lands have caused neither envy nor jealousy, therefore they have not been unduly coveted. Some of them, however, are beginning to assume a strategic importance which far outweighs their economic value, and this importance, be it noted, is because they are or may be used as stepping stones to the wealth and natural resources of the New World.

It is meet that at this season of the year and particularly at a time when the future of the nation and the Empire is at stake, we should turn our thoughts to our abundant natural resources and see to it that neither our own shortsightedness nor the force of arms wielded by others shall be permitted to despoil, or wrench from us our wonderful heritage.

There is a tendency during normal times to squander or unduly capitalize on natural resources for the sake of wealth or pleasure. Many of these assets, such as metals, minerals, oil, coal, etc., are not replaceable, while others, like our forests and wildlife are self-renewing if but given a chance. The conservation of these resources is merely a broad term signifying every plan which has for its object a proper appreciation of their material and spiritual values and the best possible means of protecting them from waste, so that the wealth of the nation will not be undermined.

The renewable assets, forests and wildlife, are very closely allied; the improper use of the former materially affects the latter. The indiscriminate cutting down of trees without any particular effort to replace them is said to be the primary cause of floods and soil erosion, two of the tragedies of modern civilization. "If we consider the matter," says the Hon. E. C. Drury, "it is not hard to see the reason. Forested land is always more absorptive than bare land. The tree roots penetrate the earth, and moving with the movement of the trees in the wind, keep open innumerable channels by which water may penetrate deep into the subsoil. The forest mat of leaves and debris, often three or four inches thick, is itself an absorptive sponge of no mean quality. In forests, the earth does not usually freeze, as I have proved by observation many times. In forests, too, the spring thaw comes much more gradually. It is common observation that, particularly in coniferous forests, snow will remain often three or four weeks after it has disappeared in the open. For all these reasons there is little run-off from forested land. In any given watershed, the area of forested land is practically withdrawn from contribution to flood waters, and since the land that should be in forest, the less fertile high land, because of its contour, contributes most disastrously to flood water, it is clear that in any water-shed a proper reforestation project will do much to prevent and mitigate flood conditions."

It is quite easy to picture the baneful effects of unnatural water flow upon fish life. Instead of the creeks and streams maintaining a steady current at a more or less normal level, because of Nature's provision for a uniform supply of water, some of them frequently become raging torrents during the spring and shallow, dried-up beds almost completely devoid of aquatic life during the summer season. The floods wash away the vegetation and much of the fish life, while the shallow warm water makes it almost impossible for the balance to survive.

Animal life is, of course, also affected materially by the wholesale cutting down of forest growth because the lack of cover makes the habitat less desirable and game is forced to seek a new environment.

But deforestation by reason of economic necessity is not the only handicap to the development of wildlife. Over a period of years an enormous amount of damage has been caused to our forest wealth by fires which

have swept over large areas and left in their wake scorched and blackened terrain temporarily useless as wildlife habitat. Streams which are not affected by floods may be polluted by excessive carbon deposits washed into them from such burned-over areas, and aquatic life is thus destroyed.

We have stressed the close association of these two national assets to show the influence of the one upon the other, and because the sportsman is particularly interested in the conservation of both. With the Empire at war, and a great part of the world involved for and against, the theme of conservation is overshadowed by the urge to destroy. The resources and wealth of the nations are being organized and used for purposes of offence and defence, both of which involve destruction rather than development. The fact that all our assets must be utilized for the purposes of war renders it more imperative that we should make the best possible use of them and avoid every semblance of waste.

So far as the British Empire is concerned, we are waging a defensive war to protect our heritage and maintain those ideals of freedom and justice upon which our constitution is founded. Defense often requires destruction, yet the underlying idea behind defense is conservation. That sounds a little involved, yet it need not be. To defend is to protect; to protect is to save; to save is to conserve, and so in broad, general terms we have conservation. The best defense a nation can have is a bountiful supply of natural resources properly utilized, and for this reason their conservation is a patriotic service and a national duty.

Sportsmen are again reminded that wildlife has a very great economic value and the war programme of the nation necessitates increased economic activity, therefore, the supply of fish and game will be subjected to more intensive utilization and the problem of maintaining the supply rendered more difficult. To meet this increasing demand the Department is carrying out its broad programme of protection and development with all the zeal its organization and resources will permit. It will be greatly aided in its work if Protective Associations and individual sportsmen will co-operate to eliminate waste through illegal or excessive taking.

The Woodcock and Wilson's or Jacksnipe

Under the provisions of the Migratory Birds Convention Act open seasons are provided for Woodcock and Wilson's or Jack-snipe. Both of these birds are migratory and have much in common. As they are not so well known to present-day hunters as to the old-timers a description of both will probably help the less experienced to identify them.

Woodcock

The Woodcock is among the first of the migrants to arrive in the spring and it wastes no time in completing its domestic arrangements. The home is usually set upon dry ground near a swamp or swale, and at least three eggs are laid, although quite frequently there are four. The female is a close brooder and will stick to the nest until almost trodden on, then she will attempt to divert attention from the nest by feigning injury.

It is a stocky bird with a rather large head and eyes which are also large

and set far back and high on the head. It has a very long, rapier-like bill, rounded wings, a short black tail and legs of moderate length. In colouration the general effect is reddish-brown. Three transverse bands of black alternating with three narrower ones of yellowish-red run across the base of the skull, while the upper part of the body is variegated, with various shades of yellowish red and black. The entire under-part of the body is paler but the sides and under-wing coverts are brighter than the remainder. The bill is a light brown, yellowish at the base, while the legs are a pale red.

It is to be found in low lands, swampy ground, or in thickets along ponds and streams. It feeds mostly on worms, larvae and insects which it procures by probing into the earth with its slender bill. Moist earth is essential to it because of the nature of its food and its method of obtaining it.

The Woodcock was formerly very plentiful in southern Ontario, but of late years its numbers have been decreasing. It is a significant fact that the open season of two months which prevailed in 1939 was cut to three weeks in 1940. This will give the bird an opportunity to re-establish itself.

Wilson's Snipe

The Wilson's Snipe or Jack-snipe at first glance somewhat resembles the Woodcock. It, too, has a very long bill and dark, striped plumage. The wings, however, are pointed, not rounded, as in the Woodcock, the belly white and the tail a reddish brown. The entire upper part of the body is a brownish black with the feathers spotted or widely edged with light yellowish red, yellowish brown, or ashy white. As in the Woodcock its legs are of moderate length and the approximate size of both birds measured from the point of bill to tip of tail is 11 inches.

It is found in the same general habitat as the Woodcock—in marshes and wet meadows—and likewise lives mostly on worms, larvae, small insects and snails. It makes its nest on the ground and there are generally three to four eggs. The young are quite active when born and able to run about almost as soon as hatched.

The Snipe has an odd flight when flushed. As it rises from the swamp it zigzags in a twisting manner before it finally straightens out on a steady flight. During the preliminary dodging its peculiar cry of "scaipe" readily identifies it.

The sportsman who notes these characteristics should have no difficulty in distinguishing both birds.

Don't Give Up the Search

One of the most disappointing experiences of the hunting field is to shoot at game, see it drop, or in some other manner indicate it has been hit and then not be able to find it. This sort of thing occurs quite frequently and must result in considerable loss of game, for the hunter, after a brief search, may conclude that his quarry has escaped and pay no further attention to it. As a matter of fact the game may have been wounded so badly that it will not survive, even if it still had sufficient strength to disappear out of sight of the hunter.

It is difficult, of course, to avoid this phase of the hunt, for sport shooting is done under so many and varied circumstances that even the best of shots sometimes fail to make a kill. The chances of so doing, however, are greatly lessened when the sportsman is an experienced shot and knows his gun—its possibilities and limitations. Wing-shooting, for example, is not just a matter of getting the bird framed in the sights and firing. There is the matter of speed, height and distance to consider. In many cases the game must be "led" if a fatal hit is to be registered. For the benefit of the inexperienced this is the action of sighting the prey, then moving the gun a little ahead of the prospective target so that the speed of the bird will not cause the shot to miss entirely or strike a non-vital part.

In duck shooting particularly, there is also the tendency to shoot when the flight is entirely too high to kill. Obviously there are limitations both as to the carrying power and grouping possibilities of shot-gun shells and the greater the distance the shot travels the more it spreads and the less effective it becomes. Distance is difficult to judge, particularly when the object is speeding and the background a clear sky. However, it would be a good rule to limit shots to fifty yards, because at that distance the grouping of the shot is still effective. We know, of course, that ducks have been killed at somewhat greater distances, but the proportion is relatively small and in any case the tendency is to under-, rather than over-estimate the distance. Long shots are less liable to be fatal and a crippled bird which gets away is not only lost to the sportsman but is less likely to survive the attacks of its natural enemies.

The same general remarks apply in regard to all game bird shooting. The ringneck, for example, can stand a lot of punishment and still disappear from the sight of the hunter. Last fall we saw a companion of the hunting field fire at a cock pheasant which rose suddenly from the edge of the swamp we were exploring. It was apparently a clean hit and the bird dropped directly to earth with a thud which could be heard. The hunter went to pick up his prize but was astounded to find it had disappeared. The spot where it fell was so close to all of us, besides being marked by a tree, that there was no mistake, yet, despite an intensive search carried out for a considerable time over a wide radius, we never did pick up that bird. Many pheasant hunters have had similar experiences, and if the birds are not subsequently found the cumulative loss by cripples may be heavy. Partridge have the same faculty for disappearing when they appear to be in the bag.

The use of a good bird dog is one means of cutting down on losses through escapes, in fact, in this type of hunting a bird dog will add considerably to the pleasure and success of the outing. However, if you are hunting without a dog and shoot a pheasant or other game bird which drops in thick cover or just out of sight over a knoll, it is wise to visually note the spot and then proceed there immediately and as directly as possible. If the bird is not visible mark the spot with a handkerchief on a twig or bush and use this as the axis from which to search in an ever-widening radius. You may be fortunate enough to find it quickly, but if not don't just shrug your shoulders and then start off in search of another. In all proba-

bility the bird is concealed close by in heavy weeds or under a bush which you have overlooked and is too badly hurt to attempt further escape. Explore every reasonable possibility before you give up the search.

In deer hunting the technique is somewhat different. If the deer has merely been wounded and starts away don't immediately start after it. Sit down for a few moments and have a smoke. If it is seriously wounded and finds it is not being followed it will probably go but a short distance and lie down, but if pursued it may summon enough strength to successfully elude you. When you do begin the search you are liable to find it lying down close at hand, either dead or too weak to go farther. In any case don't readily give up the chase, because a wounded deer has a slim chance of surviving, and it is practical conservation to prevent losses wherever possible.

Winter Fishing

This is a typical winter day. The temperature out-of-doors is hovering around the freezing point and a light fall of snow is spreading a flimsy canopy of white over everything. Indoors the atmosphere is heavy with the forced artificial heat so necessary to our creature comfort. A glance through the window and our immediate reaction is to sigh for the spring as a prelude to those outdoor activities by lake and stream which are the joy of every angler.

This thought, however, reminds us that while outdoor conditions are not conducive to fishing it is still legally possible for the individual so inclined to catch fish of certain kinds. All over the Province there are hundreds of hardy men and youths who because of leisure or personal need continue to keep on fishing even when the temperature is biting with a greater zest than the fish, and most of us are content to bask in the sunshine of pleasant memories and happy anticipation.

Winter fishing is no picnic, unless hard work, exposure and the patience of Job can be so construed. In many cases the fisherman builds himself a tiny shack which he laboriously hauls out on the ice to his fishing grounds, and may even equip it with a small stove or a makeshift to serve the same purpose. Furnished thus, the hours spent on the ice may be reasonably comfortable so far as warmth is concerned, but as there is a minimum of activity the conditions are both monotonous and unhealthy.

Other hardy individuals merely provide themselves with a piece of canvas or sacking which is set up on the ice stretched between two poles to serve as a windbreak. Behind this the fisherman squats, after dropping his line with an attractive bait through a hole cut in the ice, and waits patiently for the first sign that a fish has taken notice of it.

If there is no wind the fisherman may even dispense with both the shack and the windbreak and endure the cold with a spartan-like fortitude which denotes a rugged personality, or a commendable enthusiasm for the sport.

There are, of course, many contraptions in use for relieving the fisherman of the necessity of holding the line, such as signalling arms which swing up when a fish has been hooked, bells or flags on springs, etc.

The actual fishing is done in deep water and, except in the St. Lawrence River, where pickerel are taken, lake trout are the principle catches.

We recall spending a winter at a small town on the Georgian Bay some years ago, and on numerous occasions had the opportunity of "bobbing" through the ice. At that time we considered it more or less of an adventure and it was good fun. Windbreakers were the only shelters used, and for the most part we spent the day over one hole. The line was allowed to sink to the bottom and then raised a few feet. The "bobbing" consisted in pumping the arm slowly up and down with a more or less regular motion, thus raising and lowering the bait as a means of attracting the fish. When a fish was hooked the fisherman ran away from the hole holding the line in his hand, and in a few moments a silvery streak literally jumped out of the water on to the ice.

Which reminds us that we were in a store along the St. Lawrence route one winter day two or three years ago when one of these hardy fishermen came in after a spell of several hours on the ice. In response to enquiry he informed all present that fishing was "no good", at the same time throwing down upon the counter his total catch. It was a small pike, frozen "stiff as a poker", and it was bandied about from one interested spectator to another and finally pushed to one side, where it reposed in solemn splendour. A few minutes later, however, we noticed the poker-like fish begin to quiver, then it began to flap its tail, and finally flop around as if newly-caught. As a matter of fact it had been taken from the water a considerable time previously, had frozen stiff almost immediately, and now, having thawed out, animation had returned with quite unexpected results.

What the Sportsman Owes to Democracy

Democracy is being seriously threatened. The priceless heritage of "Government of the people, by the people, for the people" which we have enjoyed for hundreds of years, and for which our forefathers fought and suffered is menaced. European dictators, breathing fire and blood, and preaching the law of the jungle, are seeking to wrest from free men the world over the right to individual liberty and the pursuit of happiness according to their own tenets. It is a grave situation, demanding the utmost in service and sacrifice from every citizen of the Empire, because if democracy is destroyed the world will once more revert to the dark ages when dictators flourished and serfdom was the common lot of man.

The struggle to protect our democratic way of life is of very great interest to sportsmen because the freedom to hunt and fish which we have enjoyed for many generations became ours only after ceaseless struggle against regal dictatorship. After the Norman conquest in 1066 rights which the common people of Britain had enjoyed were suddenly denied them. The fallacy that kings ruled by Divine right was responsible for setting up a dictatorship which resulted in the ownership of wild game being vested in the king, who claimed such ownership as a personal prerogative. Under strict penalties the people were forbidden to hunt or take game and the sport was confined to the King and his nobles, who received special authority

from the monarch. The law on the matter is quoted thus: "The right belongs to the king to hunt in his dominion; his quality of sovereign gives him the authority to take possession above all others of the things which belong to no one, such as wild animals; the lords and those who have a right to hunt hold such right but from his permission, and he can affix to this permission such restrictions and modifications as may seem to him good."

The effect of this prohibition and dictatorial attitude angered the people and frequently drove them into open rebellion. It was a situation calculated to breed discord, for free men do not readily submit to dictatorships. Poaching became rife, outlawry increased and, as feudal overbearance was general the people became restless. This situation lasted for many years during which time there was a continual struggle to throw off the yoke of oppression under which they were forced to live. The spirit of the times was typified by the exploits of that famous historical character, Robin Hood, who championed the cause of the poor. Finally King John was faced with such disaffection that in 1215 he granted to the Barons the Great Charter which forms the basis of our civil liberty and is known as Magna Charta.

So far as game is concerned it appears that from then on all game not reduced to possession was vested in the State as a sacred trust for the people. Although this was not a statutory enactment it became a part of the common law of the land and the principle has been upheld ever since.

The right to hunt and fish which we enjoy today is part of our democratic inheritance. That heritage is being threatened as it never has been before. Nazism is the lust for power, backed by the inflated egotism which would substitute personal ambition and dictatorial authority for civil and political liberty. Were it to succeed the era of serfdom would again be upon us and dictators would once more impose their will.

It is clear, therefore, that the individual has little or no status in the creed of dictators. It was only when democratic government was introduced that the right to hunt and fish was extended to all classes, and, while this is but a minor issue compared with the fact that the future of democracy itself is at stake in the present conflict, the sportsman would do well to remember these things and put forth every effort to defeat the aggressor.

It Must Not Happen Here

(*By Jan Cech, in Czechoslovak v Anglia, London*)

The Czech cottager Karel Zajicek had been arrested by the Gestapo and taken to the Buchenwalde concentration camp in Germany. A few weeks later his wife received in a brown cardboard box the ashes of her husband, who had been murdered in that Black Guard Hell. The commander of the camp had written, as usual: "The prisoner Karel Zajicek hanged himself because he was afraid of the punishment coming to him. . . ."

The widow stared at the brown cardboard box. Broken down by hopeless sorrow, she could only whisper reproachfully, "Dear Lord! Dear Lord!"

As soon as the ashes of his father had been brought home, Oscar, a young man of twenty, left his mother and, walking through the village,

called at nearly every house. Everyone was horrified and indignant. The arrest and murder of one of their own people made the cottagers and the peasants rage. Never had they felt closer to the widow and to Oscar, about whom they all knew that he was, as his father had been, a true Czech, a passionate enemy of Hitler's Germany and a gallant fighter for a free Czechoslovakia in a free Europe.

In the afternoon a man in the black uniform of the S.S. called at the Zajiceks' home.

"Mrs. Zajicek," he yelled, "I am from the police and I have come to tell you that we cannot allow you to have a public funeral for your husband. You must bury him alone—quite alone. Should anyone in the village get to know the day and the hour of the funeral, or should anyone dare to attend, not only he or she but also you and your son will rue the day on which you dared go against our orders."

The widow Zajicek, half-stunned by sorrow, did not understand what the officer had said. At least, not right away. Later on she understood perfectly.

On the day before the funeral—the Gestapo had fixed the day—the S.S. officer turned up again. He wanted to know whether the widow had understood what he had told her the last time he had come to the house.

Oscar looked fixedly at the officer and answered for his mother.

"Yes, my mother understood what you said. She will bury my father alone, quite alone. . . ."

On the same evening the Gestapo agents paid surprise visits to some of the houses in the village. But they found nothing suspicious. In one house they saw Oscar with some young men of his age learning German. But as the Protector of the Realm had expressed the wish the young men should learn German the secret police could not object.

The strange quiet and the scornful looks which met the spies wherever they went made a bad impression upon them. But they could do nothing. After all they could not arrest the whole village.

On the day of the funeral the village street looked strangely different. It was swept and terribly clean, and there was not a single human being to be seen. Not a single voice was to be heard. At the open windows stood the villagers, the men bareheaded notwithstanding the bitter cold, the women folding their hands in silent prayer.

The door of the Zajicek house opened and the widow came out. In her ungloved hands she bore the brown cardboard box with the ashes of her murdered husband. And slowly, very slowly and in perfect silence she walked along the empty village street. . . .

Such was the funeral of the gallant fighter Karel Zajicek, who was to be buried alone, quite alone, and whose funeral the whole village attended nevertheless.

On the same evening Oscar and many villagers and peasants were arrested. But as nobody had disobeyed the order they had to be released again. And the villagers, knowing full well that they had been the victors in this fight, went home with their chins up and a new hope in their hearts.

Gleanings From Here and There

A news item from Shelburne appearing in one of the evening papers the other day said: "Foxes are so plentiful you can almost catch them by the tail." The reporter was quoting a fur buyer in that district and he had names of successful hunters with the numbers of foxes taken by each. The item showed that some nine persons had shot a total of 62 foxes in the Dufferin-Grey districts, and in addition two or three others have taken an undetermined number. The fur buyer claims to have bought 200 so far as against 80 last year.

The following evening two additional items appeared in another evening paper. They were quotations from country newspapers. One from South Bruce reported that two local nimrods who specialize in fox hunting during the winter months had bagged no less than 12 to date this season. The other was from Fergus and states that "rabbits are scarce around Fergus this year and foxes are to blame". The report continues: "Town people might not think that there were many wild animals around this part of Ontario, which has been farmed for well over a hundred years, but there are probably more animals than fifty years ago. Foxes are said to be quite numerous."

A few days ago an organized fox hunt arranged by the controlling organization was carried out in Markham Township where pheasants are quite plentiful and were allegedly being destroyed by foxes. Similar hunts, under proper supervision took place in Peel County. Reports from Halton County also comment on the increased numbers of foxes to be found in that district.

It is quite evident that the fox population in the districts mentioned has increased considerably. The fox is a predator of small game such as rabbits, birds, etc., and is not averse to picking up a domestic fowl if the opportunity presents itself. It is possible that the increasing numbers of pheasants may account in some measure for the large influx of foxes.

* * * * *

As proof of the fact that deer have become very numerous in southern Ontario because of the protection given them over a period of years, we mention the fact that the other day two officers of the Department while on a routine patrol saw a herd of nineteen deer in a bush not thirty miles from Toronto.

* * * * *

"Huns hard to hit"! This is not a wail by the R.A.F. but the heading of a story in an exchange Bulletin. It has reference to the Hungarian Partridge which presents a more elusive target than the Stuka bomber or the synthetic oil plants in or near Berlin.

* * * * *

Sportsmen cannot have their cake and eat it too. They cannot exceed bag limits, shoot game out of season, and in other ways violate laws placed on the statute books for the protection of furred and feathered creatures without paying the penalty.—*Albany Herald*.

Friends an' Fishin'

A-fishin' on the creek bank
Gives me lots o' room for tho't,
Quite often of the many times
I don't do like I ought;
An' often of the many folks
I know from day to day—
Keep weighin' all their actions
An' keep weighin' what they say.

I can see the noisy riffles
As they chatter on in song,
An' they make me think of people
As they gush their way along;
They may laugh an' they may chatter
But they're shallow just the same—
Tho' they're pretty in the sunlight
Ain't no depths that you can name.

But somehow I like the deeper pools
With water runnin' still,
Swishin' up against the willows
With a restfulness until
My lone heart finds understandin'
An' my soul finds faith an' trust—
Just like steady friends that simply
Make me love 'em 'cause I must.

I know the water's deep an' cool
Without ever bein' heard,
An' I know such friends are faithful
Tho' they may not speak a word;
So, the place I like for fishin'
And the friends I like to keep
Is where water an' their friendship
Keep on runnin' still an' deep.

—Basil Willis (*Denver Post*).

G.C. Torre



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

March and April
1941

HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO

ONTARIO

HON. H. C. NIXON, *Provincial Secretary,
Minister in charge of Department.*

D. J. TAYLOR, *Deputy Minister.*

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Conservation and Moral Values

CHARACTER is the essence of good citizenship. It is nourished on environment, stimulated by proper companionship, fortified by education, emphasized by recreation, and consolidated by a proper appreciation of the finer things of life.

For many months, in the Bulletin, we have stressed the fact that all of these essentials may be developed in the environment of field and stream through the recreational pleasures which fishing and hunting afford. The following extracts from the utterances of three ex-Presidents of the United States are illustrative of the moral values involved.—*Editor.*

The purpose of conservation as I see it is to endeavour to preserve for the future the characteristics which have made America great in the past.

The men and women who built this nation have left us many precious legacies. By far the most important of these is our national character. This character did not spring fully blown upon the nation. It was begotten of the struggle with the wilderness; the contact with out-of-doors and all that out-of-doors means.—*Theodore Roosevelt.*

The physical vigor, moral strength and clean simplicity of mind of the American people can be immeasurably furthered by the properly developed opportunities for the life in the open afforded by our forests, mountains and waterways.

Life in the open is a great character builder. From such life much of the American spirit of freedom springs. Furthering the opportunities of all for such life ranks in the general class with education.—*Calvin Coolidge.*

We associate joy with leisure. We have great machinery of joy, some of it destructive, some of it synthetic, some of it mass production. We go to chain theatres and movies; we watch somebody else knock a ball over the fence or kick it over the goal post. I do that and I believe in it. I do, however, insist that no other organized joy has comparable values to the outdoor experience. We gain less from the other forms in moral stature, in renewed purpose in life, in kindness, and in all the fishing beatitudes. We gain none of the constructive rejuvenating joy that comes from return to the solemnity, the calm and inspiration of primitive nature. The joyous rush of the brook, the contemplation of the eternal flow of the stream, the stretch of forest and mountain, all reduce our egotism, soothe our troubles and shame our wickedness.—*Herbert Hoover.*

Conservation Through Co-operation

The leaders of the axis powers are desperately playing upon the fears of the little nations by means of threats and diplomatic intrigue to secure their co-operation or non-belligerency in the event that subversive acts against their national independence are committed by the armies of these powers in their plans for the defeat of Britain and the conquest of Europe. Such treaties, brought about by force, cannot by any stretch of imagination be called partnerships. The small nations are in most cases accomplices in the plans of the dictators, in order to save their countries from the horrors of war. Because of this fact there is always an undercurrent of illwill which may at any moment break out into revolt or by secret machinations block the dictator plans. Under such conditions co-operation is lacking and the desired end becomes more difficult.

In the realm of wild life somewhat the same situation prevails. To be successful the conservation programme requires the co-operation of every sportsman, guide, trapper, camp-owner, etc., and such co-operation must be based on a mutual understanding of the problems involved. It is not enough to be coerced into law observance through fear of punishment, or merely to act from selfish interests, there must be that sincere collaboration which leaves no loop-hole for backdoor sabotage.

The problems involved are many and varied and have been repeatedly stressed, but for the sake of emphasis let us repeat some of them in order to show that complete co-operation is necessary in order to preserve this valuable heritage which has become of more importance than ever during these critical times.

The general situation is well exemplified in the world crisis as it affects shipping. In times of peace the nations of the world possessed large fleets of merchant ships which sailed the seven seas bearing an exchange of commodities, and contributing to the happiness and welfare of mankind. These shipping resources were adequate for all normal purposes and represented assets of tremendous importance in the scheme of economic development and international relationships. Then came the war, and the seas were no longer free. A blockade by Britain and a counter blockade by Germany opened the way for the destruction of the ships of both powers, and this destruction has been proceeding steadily ever since. The sinking of British and Allied shipping has been particularly heavy, because it represented a large proportion of the sea-borne transportation of the world and because it has been subject to ruthless and intensive attack, in a geographical area which lends itself to such attack, and because British defences have had to be thinned out to meet emergencies in all parts of the world. Shipping is vital, however, and so the resources of the country have been feverishly employed building new ships to replace those sunk. Because of this ruthless destruction it is difficult to keep replacements ahead of losses, and so new and adequate protective measures must be employed, or a serious situation would result.

Much the same condition exists in the natural world over which man

has been given dominion. In the early days fish and game were plentiful, and the provision of Nature for maintaining the supply adequate. Immediately civilized man entered the picture, however, the scheme of things was changed and economic development resulted in an unavoidable conflict between man and the things of Nature. The process of building up a country is too well known to require more than passing reference. It entails the destruction of forests, the clearing of land, the damming of streams, and many other infringements upon wildlife habitat and environment. Much waste of a valuable heritage was thus entailed.

These were only the opening rumbles of a campaign of destruction based on the idea—if any thought was actually given to the matter—that wildlife resources were inexhaustible. Market hunters destroyed ruthlessly for profit; irresponsible individuals killed for the sheer lust of killing; waste was extremely prevalent, and as a result destruction far exceeded natural replacements. The resources of forest and stream, like allied shipping, were being destroyed more rapidly than man and Nature had made any provision for, and thus a valuable asset was being gradually dissipated.

If given a chance wildlife will replenish itself, but if ruthlessly destroyed not even Nature can keep up the pace. To defend the game and fish from the disastrous effects of illegal and injudicious hunting was the first phase of the conservation programme. It took the form of restrictive laws, and officers to enforce these laws. But the protective forces, like the British Navy, had a large area to cover, and while they succeeded in slowing up the waste, more extensive measures for regulating take, ensuring reproduction and enforcing the laws were necessary.

The demand on the resources continued to grow as the economic and recreational value of the wildlife heritage became more widely known. Over a period of years resident hunters and anglers have increased by thousands and the tourist trade has become one of our largest industries.

The protective programme has taken cognizance of all these different phases affecting supply and demand and made provision to maintain a proper balance. Large areas of suitable land have been set aside as sanctuary for game, ensuring reproduction and perpetuation. Small game has been intensively propagated and released to re-stock forest and field. Hundreds of millions of fish are artificially raised in more than a score of hatcheries, and annually deposited in the waters of the Province. The game and fish laws embody the results of biological and practical experience, and their enforcement is well taken care of by an efficient staff of game wardens.

The resources of the Empire have been organized to produce ships and more ships in order that the destructive effect of submarine, mine, bomber and surface raider may be minimized; but in addition there is a vast and extremely vigilant organization of defense working continually to protect the shipping and commerce of the Empire. The success of this protective force is due to the complete co-operation which exists between all branches of the service.

The success of the conservation programme followed by the Department will in like manner depend upon the complete co-operation of all those interested directly or indirectly in our wildlife assets. The sportsman is interested in maintaining well stocked lakes and forests replete with game, but unless he co-operates to prevent waste through illegal or excessive taking he impairs the future of his sport. The guide who fails to enforce the regulations under the mistaken impression that he will hurt his business is neither a good guide nor a shrewd business man, for those who employ guides will not do so should the resources become depleted, and the best way to hasten depletion is to permit waste. The tourist outfitter or camper may have many attractions to offer visitors in the form of scenery, good food, accommodation, etc., but unless he co-operates to maintain the pulling power of the fish and game magnet through well-stocked lakes, prospective guests will soon tire of "beating a path to his door". The trapper who for present gain sacrifices the reproductive capacity of his trap line by too intensive trapping will eventually find himself recording diminishing returns.

It is clear that there are many leaks in the general scheme of wildlife perpetuation and rehabilitation which can only be plugged by the combined efforts of all those individuals to whom we have referred, and it should also be evident that each has a personal interest which places the responsibility squarely upon his own shoulders. In this connection it is pleasing to note the increasing interest being taken by sportsmen, outfitters and guides as reflected in the many splendid associations organized for the protection of fish and game and which are giving active assistance in implementing the Department's conservation programme.

There is still a wide field for co-operative effort, however, if we are to realize the full benefits which our resources confer upon us, and which conservation measures are intended to implement. Some 1,303 convictions were registered during the year 39-40, according to Departmental figures, for breaches of the laws and regulations governing fish and game. Some of these were serious offences deliberately committed and which resulted in unnecessary waste, others were the result of thoughtlessness or indifference to the rights of others and the privileges which all of us enjoy. It is obvious that not all of those who break the laws are caught, so that the cumulative effect of this petty pilfering of a valuable resource could quite conceivably become a serious obstacle to the success of the conservation programme. Law observance is essential to a plentiful supply of fish and game and irresponsible waste must not be condoned. It is the individual who hunts and fishes for sport, and it is the individual who must be on his guard to prevent any dissipation through illegal means of the resources which make possible the finest of outdoor recreations. In other words, organized effort must have individual support, and with such co-operation the work of the Department will prove of lasting benefit to the sportsman, and contribute much to the work of building up foreign exchange through the tourist traffic, for which well stocked waters provide a strong attraction.

The Aurora Trout

(Salvelinus Timagamiensis)

"What is this Aurora Trout mentioned in your Game and Fisheries Act and where is it to be found?" asked an ardent American angler who stopped to chat with us at the Department's exhibit in the Sport Show at Chicago. "I've fished pretty well all over Ontario," he continued, "but so far have never come across a trout I could not identify as one of the well-known species." We were able to give him the information he desired, and his interest in Ontario was kindled anew.

There is an interesting story behind the Aurora trout, and as very few anglers are familiar with this species we give it here. The information is taken from a pamphlet called "Description of the Aurora Trout (*Salvelinus Timagamiensis*) A new species from Ontario", by Arthur W. Henn and Wm. H. Renkenbach.

On September 1, 1923, a party of American anglers, including Mr. Renkenbach, a biologist, while fishing in White Pine Lake located in the Timagami Forest Reserve, caught several species of fish which they were unable to identify. However, believing them to be what was commonly and vaguely referred to as "Gray Trout" and "Salmon Trout" no attempt was made to preserve specimens, but the skin of one was salted and taken out as a trophy.

"A search of the literature by the junior author," to quote from the pamphlet, "failing to positively identify the fish, the senior author was consulted. Upon his advice the matter was taken up with Dr. William C. Kendall, of the U.S. Bureau of Fisheries. In commenting, Dr. Kendall wrote that he was unable to make an identification, but said: 'For several reasons I do not believe it to be a hybrid. It is quite possible that in those waters there is a hitherto unrecognized species.'" Acting upon this suggestion, another trip was made to Timagami on May 15, 1924, to collect for the Carnegie Museum specimens of this and other trouts native to the district. Because of extremely cold weather and consequent poor angling the trip was unsuccessful.

In July of the same year the authors again journeyed to the district, and after reaching Latchford spent five days by canoe and trail before arriving at White Pine Lake. During their stay at White Pine Lake a number of specimens were caught. Natural colour photographs of the fish were taken and they were then preserved in four per cent. formaldehyde.

Direct comparisons with all other species of North American Trout were subsequently made, and it was found that the fish taken from White Pine Lake differed in some manner in structure and coloration from the others. The result confirmed Dr. Kendall's suggestion that in White Pine Lake and waters adjacent thereto there was a hitherto unrecognized species.

"We have recently returned from the Timagami region of Ontario," say the authors in the opening paragraph of their report, "with specimens of a

species of charr belonging to the *S. Alpinus* group, which upon examination and comparison appears to be new. The species is locally known as 'Rainbow Trout', 'Land-locked Salmon', and 'Salmon Trout'. Since none of the local names are truly applicable, we suggest that this beautifully coloured trout be known as the 'Aurora Trout'." The scientific name is *Salvelinus timagamiensis*.

The Aurora trout is a member of the charr family and closely related to the speckled trout, which also bears the word *Salvelinus* as part of its scientific designation—but as its characteristics differ from that of *fontinalis*, it is known as *timagamiensis*. This word closely identifies it with the district of Timagami.

In range of size the Aurora trout approximates the speckled trout, and has many resemblances thereto, especially in the size and shape of the jaws and the square tail. However, it differs markedly from the Brook trout in coloration, and, according to the authors, the presence in the same waters of specimens of the true *S. fontinalis* (Brook trout) proves that it is not a colour-variety of the Speckled trout.

The coloration is uniform and there are no spots as in the Speckled trout. The back is dark bluish-silver, the sides paler, becoming silvery below the lateral line and gradually shading into pure white on the abdomen.

The dorsal fins and tail are bluish or colourless, while the other fins and the lobe of the tail are margined with clear white, then with a solid ivory-black patch which tapers to form a narrow black streak and follows the white outer margin to its tip. The balance of all fins (except dorsal and caudal) are a bright crimson which fades to very pale lemon-yellow on the inner third. The Aurora has a silvery sheen with an iridescent glint in the sunlight, and the name (after the Aurora Borealis) gives some indication of the colour effect.

While intensive study of the habits of the Aurora trout have not been made it appears that these are similar to those of the speckled trout. This applies to feeding, spawning, etc. So far as is known the area of distribution is limited to the district mentioned.

It should be noted that while the open season for Aurora trout is the same as that for Speckled trout the bag limit is much less, viz., five per day not less than seven inches in length.

The Art of Angling

"O, sir, doubt not but that angling is an art. Is it not an art to deceive a trout with an artificial fly? a trout that is more sharp-sighted than any hawk you have named, and more watchful and timorous than your high-mettled merlin is bold? doubt not, therefore, sir, but that angling is an art, and an art worth your learning. The question is rather, whether you be capable of learning it? for angling is somewhat like poetry, men are to be born so. I mean, with inclinations to it, though both may be heightened

by discourse and practice; but he that hopes to be a good angler must not only bring an enquiring, searching, observing wit, but he must bring a large measure of hope, and patience, and a love and propensity to the art itself; but having once got and practised it, then doubt not but angling will prove to be so pleasant, that it will prove to be like virtue, a reward to itself."—*Isaac Walton.*

This extract from that well-known English classic "The Compleat Angler", written almost 300 years ago, is typical of the enthusiasm with which the dean of fishermen discourses on his favourite subject, fly fishing. We are reminded of the extract now because spring is in the air and there is an obvious restlessness beginning to appear among those who herald May 1st as the most important date in the year.

Of course the art of angling as Walton describes it is not merely the act of catching fish. This is a simple matter of providing the proper inducement and the means to snare the unwary. The proverbial small boy with pole, string, makeshift hook and can of worms is no artist at the fishing game, but he is invariably successful at catching fish. The inexperienced angler who with a powerful sweep sets the hook and lands the fish with the same excited movement gives no demonstration of either skill or refinement, yet he can catch fish. Trolling with a copper line on a heavy reel attached to the side of a boat and landing the fish by laboriously turning the crank is in no sense of the word artistic, but it effectively does the job.

All of these methods of angling, however unrefined they may appear, are capable of affording excellent sport and the lack of art in the method employed is amply compensated for by the pleasure involved and the results achieved.

The key to Walton's enthusiasm is that sentence in question form, "Is it not an art to deceive a trout with an artificial fly?" He was a keen trout fisherman himself, and even three centuries ago the enthusiasts had learned the added joy which refinements in tackle and skill in operation provide. Fly fishing is becoming more and more popular every year, not only in angling for trout, but for taking many varieties of fish. The use of a fly rod, where such is practicable, and whether or not the angler is skilled in the art of manipulation, will be found to add materially to the thrill of the sport. We have in mind, of course, the lightness, flexibility and general utility of such a rod, and the sense of skill which one feels when subduing a gamey fighter on light tackle.

Having said so much we confess that we are in agreement with Walton when he suggests that "to be a good angler" many virtues and much experience are involved. Expert and accurate casting, a familiarity with natural and artificial flies, a general knowledge of habitat and fish life, these are essential qualifications, but are not acquired without "discourse and practice" and an enthusiasm for the sport. On the other hand none of these qualifications are difficult to acquire and every angler will find the effort well worth while.

Angling, however, as someone has said, is not so much an art as it is a philosophy—Walton confirms this thought in his recital of the qualifications necessary to a complete enjoyment of the sport—a philosophy combining those virtues which make for happiness and contentment and which, “like virtue bring their own reward”.

The Menace of Pollution

“Local sawmills inspected during the week re pollution, premises in good order, refuse being destroyed by fire.” So reads an extract from a recent report to the Dominion Department of Fisheries by one of its inspectors residing in a fishing community.

There's a lesson in this brief extract. Pollution of streams constitutes one of the most serious menaces faced by fish life in Canadian inland waters, and too much stress cannot be placed on the careful disposal of refuse by sawmills and manufacturing plants located on fishing streams. Most Canadian operators already observe this injunction, but an ounce of prevention is better than a pound of cure. Sawdust, chemical discharge, and similar materials can rapidly ruin fish life in a stream if the refuse is allowed to enter the passing water. And it is not only inland fish which suffer, for other species such as the salmon, which enter the fresh-water streams to spawn, likewise fall victim to the careless waste disposal.

Certain chemicals poison the streams, eliminating all fish life. Sawdust deposits rapidly accumulate on the stream beds and ruin the stream for fish life for long periods of time. The spawning grounds are covered, the stream's ability to produce natural food supply is affected, and objectionable gases may also be generated.

All Canadians are interested in the preservation and extension of their inland and migratory fisheries, and careful control of mill and factory refuse is one way in which a sizeable contribution can be made to preservation of fish life. Of course, too, it is actually illegal to pollute the waters of any Canadian stream inhabited by fish, and severe penalties are provided for persistent law-breakers. Mill owners and factory operators in general are cautioned to exercise all possible care in preventing improper entry of sawdust or other objectionable and harmful material into adjacent streams. Co-operation in preventing any such pollution will be of real assistance in Canada's fish conservation efforts.—*Fisheries News Bulletin*.

The Muskrat

With the spring break-up the trapping of muskrat gets under way and hundreds of industrious out-of-door men may be seen at odd intervals combing the marshes, inspecting or setting traps and generally disporting themselves as if they were really fond of the swamp lands with their pitfalls of soft, oozy mud. Muskrat trapping is an important branch of the fur industry, not because the individual furs are particularly valuable, as furs go, but because these little rodents are very plentiful and are readily captured.

The numbers that can be taken ensure a reasonable return for the work involved.

So far as the trapper is concerned muskrats continue to provide a large proportion of his annual income. During the year 1939-40 the catch in the Province totalled some 689,706 pelts which was an increase of 180,813 over the previous season and 345,743 over the season 1937-38. Very good trapping conditions last year may be responsible in some measure for the increased take.

The fecundity of the muskrat is generally known, but the following report from the Canadian Resources Bulletin will probably be an eye-opener to many.

"Muskrat restoration on the Two Islands Preserve, near The Pas, Manitoba, is making encouraging progress, according to the Federal Department of Mines and Resources, which reports that the muskrat population of this 160,000-acre area has increased from 300 to 30,000 in two years.

Started for the benefit of the Indian and half-breed population, this huge wild life conservation project got under way in the spring of 1938, when the area was closed to trapping, and a staff of game wardens was appointed. The result of the first muskrat census, taken in the autumn of that year, disclosed only 65 muskrat houses, or an approximate population of 300. Extensive physical development, including the erection of numerous dykes and dams and the building of a large intake canal was carried out during the summer of 1939. Although no new water was admitted to the preserve in 1939, the census taken in the early winter showed 719 muskrat houses or approximately 3,300 muskrats.

Flooding of about two-thirds of the preserve was completed during 1940, and the third census, taken in November and December, showed 5,048 muskrat houses or more than 30,000 muskrats. This year flooding of the entire area will be undertaken, and conditions for even more rapid development appear ideal. Water depth in the flooded portions of the preserve is at a satisfactory level, and owing to the higher water there has been a decided improvement in the vegetation upon which the muskrats feed. A harvest of one-quarter of a million muskrat pelts is predicted for the spring of 1943, and it is hoped that a moderate catch may be taken in 1942 without retarding the progress of the development."

Increased Wolf Bounty

In the last issue of the Bulletin we commented on the increase in the number of foxes in the southern part of the Province, and it appears we must now extend our comments to include wolves. The Department has recently increased the bounty on wolves from \$15 to \$25 in order to stimulate the destruction of this particular predator, claims for bounty having fallen off very considerably during the past few years. Notice of the increase has evoked a great deal of favourable comment in many weekly newspapers, according to a recent broadcast covering items of news from the weeklies.

The vast hinterland of the north is, of course, the real wolf country, and it is from this part that most of the claims for bounty are received. Nevertheless the reports from widely separated points in southern Ontario as related in the weekly newspapers which, by the way, are more closely associated with the country than the dailies, and therefore a better barometer of wildlife conditions, show that this scion of the north has migrated in increasing numbers to new fields of operation in the south.

There is, for example, the report of a wolf caught in a muskrat trap in Essex County, which is rather rare for this extreme southwestern district. According to the broadcast, over a score of newspapers covering an area from Essex County in the southwest to Perth in the east and north to Gravenhurst have published items about wolves in their respective districts. It is quite possible, of course, that many of these reports refer to the same incident, but the widely separated points from which they emanate show that more stragglers than usual have come south for the winter.

"There has been a rather startling decrease in the annual number of wolves killed in Ontario" comments the Honourable Mr. Nixon in announcing the increased bounty. "In the past eleven months, the take was only 988 and only \$13,823 has been paid in bounties out of the \$27,000 voted by the legislature for this purpose. When one contrasts this with the \$53,000 paid in 1933 and \$68,800 paid in 1932 for some 2,880 pelts offered each year for bounty, it will be readily seen the difference is rather striking."

"I believe it is explained in part this year," he continues, "by the fact that there are 710 fewer trappers who have taken out licenses and a great many of those who have taken out their annual licenses take them only for the short beaver season, so that, because of enlistments in the Active Service, employment in war industries and for other obvious reasons, fewer people are in the bush shooting and trapping the occasional wolf in connection with their other activities."

It is natural to expect that if the activities of the trappers and others against the northern pack have been relaxed lately, there will be some increase in their numbers and many stragglers will find their way south. However, the increased bounty should provide a new incentive to hunt them down.

Sale of Confiscated Fishing Equipment

Because of war conditions there was no sale of confiscated firearms last fall. Many of these have effectively been made use of for the duration as weapons of protection against sabotage, and other national defence purposes for which they have been found effective.

For some days, however, there has been feverish activity in the Department's storage vault where the confiscated articles are hidden away until such time as a public sale is announced. Such a sale had been advertised to take place on April 16th and 17th, and those concerned were busy checking the equipment with the records of seizures, and numbering the various lots so that public bidding on these by sealed tender could be expedited.

A pre-sale tour of inspection through this Aladdin's cave revealed an extensive collection of rods and reels standing in irregular array and more or less shamefacedly offering themselves to prospective buyers. There were all types, sizes and conditions, from the unpretentious dime store model to the more expensive fly rods and tubular steels. Almost without exception each rod had a reel and line attached thereto. The reels could be described in the same manner as the rods: some of them must have belonged to discriminating, but not very law-abiding fishermen, others were less valuable but probably served just as useful a purpose. In any case the whole array had the appearance of a post fire sale in some sporting goods store. Altogether there were about 162 to choose from, so those who took advantage of the opportunity had a wide selection. Included in the group were a number of trolling rods with appropriate reels.

To make the equipment complete there were about 30 tackle boxes, most of them containing a miscellaneous assortment of hooks, lines, artificial baits, etc., or a varied selection of odds and ends such as every angler loves to carry around with him just in case he may need some of it some time! Many of the boxes were home-made, some of them very cleverly fashioned with all the sliding trays and separate compartments so dear to the heart of the enthusiast.

What took our fancy most, however, was a number of oddly-shaped boxes which on examination we discovered were clever arrangements for automatically winding up the copper lines used in lake trolling. All of them appeared to contain spring gramophone motors to the shaft of which the reel was attached inside the box. The thin copper line was led through an opening on the face of the box. When in use the line was pulled out through the opening and this process apparently kept the spring wound up. The fishermen held the line in his hand and when a fish was hooked hauled it in hand over hand, but instead of the spare line cluttering up the boat and probably becoming tangled it was automatically wound up by the more or less ingenious equipment.

In addition to the articles mentioned there were about 30 or more artificial lights comprising flashlights, gasolene lanterns, oil lanterns, carbide lamps, etc., and a number of creels, haversacks, landing nets, minnow pails, decoys, suitcases and trunks.

Impressions of the Sport Shows

The Province of Ontario had an interesting and outstanding exhibit at the Sport shows in Chicago and Detroit a few weeks ago with the idea of attracting increased numbers of American tourists to the Province and countering the subversive rumours which did so much to reduce the traffic last season. At both shows huge crowds were present every day. In Chicago, for example, there was a record one-day crowd of almost 60,000, and the average for the show which lasted nine days was well over 40,000 daily. In Detroit the crowds were not quite so dense, but the attendance figures were relatively large. In each case a very great deal of interest was shown in the exhibit and the advertising literature was eagerly taken up.

Those in charge of the exhibit had a busy time answering questions about the how, where and when of fishing and hunting within the Province, and it was generally conceded that if the hundreds of unsolicited promises to visit Ontario this year are translated into action, and are any indication of the feeling which prevails generally, then a large increase in tourist visitors may be looked for.

One thing which impressed us at both shows was the extensive knowledge of northern Ontario possessed by large numbers of those who, attracted by the exhibit, stopped to chat. They represented people who have been spending their vacations in Ontario for many years and who were familiar with all of the better known fishing locations. They were proud of their knowledge too, particularly when someone standing close by and listening intently would ask them for additional information. It was the best kind of advertising.

The most ticklish questions were those concerning "the best place to fish". For obvious reasons it was quite impossible to designate any particular locality "the best place" because that would not only be discriminating against the rest of the Province, but would in addition be risking adverse publicity should the suggested lake or stream not prove up to expectations. It was not difficult to satisfy such questioners however, and they were generally surprised to learn after being shown a map that the facilities for fishing in the Province were so extensive that the best place to fish is wherever fancy leads. Of course many districts produce certain species which are not common to others, and to these specific enquiries could always be referred.

One of the pleasing features of the many conversations we had with visitors who are familiar with the Province was the absence of complaints about lack of fish, or anything bearing upon the treatment received. Indeed, it appeared as if everyone concerned had pleasing recollections of vacations in Ontario and were anxious to tell of these experiences.

A special attraction at the exhibit was the regular showing of coloured moving pictures replete with action and demonstrating that the claim that Ontario is a sportsman's paradise was no idle boast. When these pictures, showing experienced anglers calmly whipping the lakes and streams and taking bass, muskies, pike and pickerel apparently at will, were shown, a large crowd would gather around, and when the last scene had faded a rush for literature and a barrage of questions usually resulted.

The friendly spirit of the people was very evident and, from the standpoint of cementing the good relations between two good neighbours, apart altogether from the economic value, the exhibit was well worth while.

The Golden Eggs

By James Savage

It is natural that birds should use their speed, not only to out-distance their enemies and catch their prey, but also to follow the temperate seasons

as they move from North to South and back again each year. Their ability to cover great distances at high speed makes it unnecessary for them to suffer the extremes of a continental climate.

Until the present century men travelled slowly and painfully, and the majority preferred not to travel at all. Except for the ancient nomad migrations for pasture, periodic mass movements of people were practically unknown. Now we have outdone the birds, even in the mastery of their own element; and airplanes, trains, good roads and the modern automobile make us the most mobile of all living creatures. It is no wonder that mass seasonal migrations of people are taking place, and are nowhere more in evidence than in the North American Continent. Here we have the world's best roads, the greatest number of automobiles per capita, and abundance of cheap fuel. Many people from the northern United States and from Canada (when circumstances permit) spend at least part of their winter in the Gulf and southern Pacific regions; while, in summer, the intense heat of the south sends millions of United States' citizens in search of Canada's cool forests and lakes. With war making European countries inaccessible to American tourists it is hoped that greater numbers than ever will come to Canada. Another reason for expecting greater numbers is the favourable rate of exchange, the Canadian dollar selling for about 90c United States' currency.

It is estimated that prior to the war United States tourists spent about \$275,000,000 annually in Canada. The Federal and Provincial Governments are endeavouring to encourage this business to a greater extent than ever before. Large sums have been appropriated for advertising and, research and intensive campaigns are being carried out to counteract the insidious propaganda inspired by subversive elements in the United States wishing to discourage the transfer of American funds to Canada.

The greatest amount of revenue usually comes from New York State. In 1939, 315,374 cars arrived from this state carrying an average of almost three persons each. From Michigan came 269,419 from Washington 81,716, Ohio 65,475, Maine 60,440, Pennsylvania 51,562, and so on down the list, including every State in the Union and even Mexico. The short-time visitors spend more freely than those who stay for a longer time, the average family spending about \$21 during a two-day visit and about \$90 on a sixty-day permit. Although the great majority of tourists arrived by car, in the same year about 780,000 came by rail and spent on an average of \$60 per person.

Extremes of heat and cold are not the only motives for this perennial migration of people and money. The machine age in which we live has brought with it a great many unhealthy occupations which make it essential for people to get away frequently from their crowded cities and noisy factories. Industry, while it often imposes unwholesome conditions and tense work upon us, also gives us increased leisure, faster means of travel, and has literally paved the way to the cool forests and refreshing lakes.

Eventually we may expect to see our summer visitors arriving in their own planes, making our analogy with bird migration complete. One can

imagine the drone from thousands of light planes passing overhead, looking like a flock of geese, and coming to rest on our innumerable lakes with the same facility as their feathered prototypes.

Realizing the value of this annual phenomenon, let us hope Canadians will have the vision to conserve the beauties of lake and forest, which of themselves might not be very productive, and that they will not resort to the proverbially calamitous procedure of performing a greedy caesura upon the bird which lays the golden eggs.

Changes in Game and Fisheries Laws

The attention of sportsmen is directed to the following changes in the Game and Fisheries Laws for the season 1941-42.

Rainbow Trout

The Rainbow Trout season will open on May 1st.

Pike and Pickerel

The pike and pickerel season will open on May 15 throughout the Province, instead of May 16 in southern Ontario and June 1st in the Rainy River Kenora District.

There will be a size limit on pickerel *taken by angling* of 13 inches. The usual limit of 8 per day remains in force.

Black Bass

The bass season will open on June 28 instead of July 1st.

This applies to all parts of the Province except: (a) River St. Clair, Lake St. Clair, Detroit River and Lake Erie fronting all counties east of but not including Essex County where the opening date remains June 25th and (b) Lake Erie, fronting Essex County where the season opens July 10th.

No change in the closing dates.

Maskinonge

The maskinonge season opens on June 28 instead of July 1st throughout the Province with the following exceptions:

- (a) River St. Clair, Lake St. Clair, Detroit River and Lake Erie, fronting all counties east of but not including Essex County where the season opens June 25.
- (b) Lake Erie, fronting Essex County, July 10th.
- (c) North and west of and including the French and Mattawa Rivers and Lake Nipissing season opens June 20th.
No change in the closing dates.

There will be a size limit on Maskinonge of 24 inches. Bag limit remains the same.

Lake Trout

In the Districts of Parry Sound, Muskoka, Haliburton, Renfrew, Hastings north of the north boundaries of the Townships of Wollaston, Limerick and Cashel, and Nipissing south of the Mattawa River, the season will extend from November 6 to October 5 of the following year.

Perch

There will be a bag limit on perch throughout the Province of 25 except in Lake Mindemoya, Manitoulin Island, where the limit has been reduced to 15. This refers to angling.

Smelt

Smelt have been defined as coarse fish and their use as bait prohibited except in the waters from which they were taken.

Licenses

A non-resident angling license valid for 3 days at a fee of \$2.00 has been provided.

Note: Three days shall mean 72 consecutive hours commencing at the time of issue; provided further that if this time expired between 12 midnight and 12 noon the license will be valid until noon and if it expired between 12 noon and 12 midnight the license will be valid until midnight.

The license will be issued between April 15th and December 1st.

Non-Resident Members of Active Service Forces

As a courtesy to the many Americans, Norwegians, Poles, Australians, New Zealanders, Britons and all other members of the Canadian or Allied forces training in Canada an order has been passed granting free fishing rights to non-resident members of the Active Service Forces.

Moose—Sec. B.

In the area west of the Superior Junction-Fort William Branch of the C.N.R. and in that area east of the C.P.R. and C.N.R. from Bigwood to Westree and south of the road from Westree to the Quebec boundary near New Liskeard both of which have been closed to moose hunting there will be an open season from October 15th to October 30, inclusive.

Deer—Sec. D.

The open season for deer in section D will extend from November 3rd to November 18th.

The New Federation of Anglers and Hunters

The Ontario Federation of Anglers and the Ontario Hunters Association have amalgamated with the idea of building up a stronger and more representative federation. This appears to be a wise move, because not only will it lend greater weight to federation activities, but in addition it will

make it possible for small clubs whose finances would not permit affiliation with both organizations to join the larger group.

For many years these two groups have been working separately in the interests of conservation, and both have had the benefit of sound leadership. Each in its own sphere retained a watchful vigil over the protection and use of our fish and game resources, and their regular appearance before the Fish and Game Committee of the Legislature with suggestions for bettering the dual sports or safeguarding the wildlife which made them possible were a valuable contribution to the conservation programme.

The slogan that in unity there is strength will undoubtedly be exemplified in the case of these two organizations, and we hope that the new federation will receive the co-operation of the many local associations throughout the Province so that the constructive and educational ideals for which both groups separately worked may be successfully carried on in an even wider field.

Fishing

When troubles seem to overtake,
And friends who once were true forsake,
When fears and doubts each moment shake,
 Go fishing.

Just grab that pole and can of bait,
Go right away—don't hesitate,
Tomorrow may be just too late
 For fishing.

There's something in that morning breeze,
There's comfort in the whispering trees,
There's visions rare one often sees
 While fishing.

The happy song of swirling stream
Awakens many a long-lost dream;
There's hope in every sunlit gleam
 When fishing.

There's lots of time e'er sunset's gold
Paints rocks and stream in colours bold;
There's comforts that can ne'er be told
 In fishing.

If you would laugh; real pleasure gain;
Hear music in a sweet refrain;
If you would be a kid again,
 Go fishing.

—HORACE J. HEAPS, *in Pennsylvania Angler.*



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

May and June
1941

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO

ONTARIO

HON. H. C. NIXON, *Provincial Secretary,
Minister in charge of Department.*

D. J. TAYLOR, *Deputy Minister.*

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An Annuity Which Pays Big Dividends

CONSERVATION—which is freely defined as the wise and prudent use of our resources—is one way of making the country a better place to live in, and is a primary requisite in any scheme of national defense. Natural resources are fundamental to economic development and social progress, as represented by standards of living, and if these are carefully used a perpetual annuity is established which will not only help to maintain these standards, but provide the means and inspiration for a zealous defense of them.

Wildlife is a renewable resource, capable of self-replenishment if given a reasonable chance, but it suffers from the fact that it is an asset administered not only for its economic worth but also for its recreational value, and in the latter respect the public has a freedom of access and possession which might quite readily become destructive without proper safeguards. These safeguards are embodied in the general conservation programme and every phase of it has a direct bearing on the development of this heritage.

Without an abundant wildlife the outdoors would lose much of its value as a tourist attraction, and as this is an industry directly or indirectly affecting the prosperity of every individual in the Dominion and vitally important to this Province in particular, those who use this resource must assume their share of responsibility for maintaining the supply. This is not only a personal obligation but a patriotic duty.

The recreational and moral values of fishing and hunting in times of stress such as we are going through at the present time cannot be over emphasized. The experiences of the outdoors are reflected in our national character and way of living, and these we are prepared to defend with all our strength.

In the environment of the outdoors, too, there is physical and mental rejuvenation, the opportunity to bolster morale and view life in its proper perspective, and a powerful antidote to subversive influences. Wildlife is a dominant factor in this environment, therefore its conservation as defined by regulation and sporting ethics is of supreme importance. Let us surround it with all the safeguards of trusteeship and it will pay big dividends in health and happiness.

Opening Day

Now it can be told! May 1st, the angler's emancipation day, opened in an atmosphere of restless anticipation and closed in a spirit of exhilaration —don't get us wrong—because realization had in many cases exceeded expectation. In other words, fishing was good! We do not ask you to take our word for it, however. The weekly angling column of a local evening newspaper had this to say. "The opening of the trout season this year was undoubtedly the most auspicious enjoyed by anglers for years past." Then follows a column of definite information about lucky anglers who were not disappointed.

And speaking of the good luck which prevailed: we were discussing the matter with the President of the Ontario Federation of Anglers and he informed us that Grey and Bruce districts were invaded by an army of anglers which he estimated at 5,000, and added that they had an average catch each of ten fish. These figures sounded a little over-enthusiastic to us, but we were assured that that was not the case. In any event this was a favourite district on opening day and those who journeyed there were fortunate in their choice.

From the column already quoted we cull the following. "The Department of Game and Fisheries has established a well-organized system of rearing trout for distribution in local waters at an age when they are ready and capable of looking after themselves." This is eminently true, and the success which anglers are meeting in their quest for speckled trout and brown trout gives reasonable assurance of satisfactory progress.

The work entailed in this re-stocking of trout streams with yearling or adult fish deserves to be better known to the anglers who whip the streams with fly or seek to lure them with natural bait, if only to ensure a proper appreciation of their value and the need to conserve them by every possible means.

In addition to the cost involved in keeping over and feeding these fish for more than a year the actual planting in trout waters is probably more onerous and exacting than any other phase of the distribution programme. Trout waters are mostly streams access to which is often difficult, and as a consequence the fish must be carried in by hand in suitable containers, often over long distances. This is not easy work, as anyone who has tried it will readily admit, but it is a part of the price which must be paid for good fishing. At this point it is pertinent to add, however, that much valuable assistance is given the Department in this important work by sportsmen and sportsmen's organizations throughout the Province.

A number of cases have occurred recently of anglers being in possession of many undersized fish, and while there may be some excuse for retaining the odd fish too badly hooked to survive if returned to the water, there can be no excuse for the indiscriminate taking of small fish. These small fish are very active and will bite freely, particularly at worms during the early part of the season.

It is not sufficient for the angler to assume that in returning these undersized fish to the water his responsibility ends. Such a practice serves no

purpose unless the fish will survive, and they certainly will not unless care is exercised in handling them and in extracting the hook.

It is reasonable to expect that there will be more small fish than large ones in the streams for the percentage of those which reach maturity is small compared with the hatch, but it must be remembered that legal-sized fish are developed from the smaller specimens, and it is essential to conserve the latter to produce the former.

There are several ways in which this may be done. Unless the angler is jealous of his rights and keen on his fish, no difficulty should be experienced in deciding when a fish is large enough to keep. The nibbling of the small fry at natural baits is usually distinct from the savage strike of the hungry adult. When this is discerned an effort should be made to prevent the little fellows from swallowing the hook. When one is hooked its size can be determined, with sufficient accuracy for preliminary decision, while bringing it in. If too small, or if there is doubt, remove the hook gently while the fish is still in the water and let it go.

If the little fellows appear to be holding the fort where you have been attacking the stream, move quietly away and try elsewhere. There's no sense in destroying non-combatants, so to speak, on the off-chance of making a legitimate capture. The one you are looking for may be "just around the corner" and spoiling for a fight.

Then, too, the trout is not aware of any restrictions of size when it comes to seizing tasty morsels of food. The limitations concern the angler and it is his responsibility to use every means in his power, both practical and ethical, to see that the regulations are observed to the letter, as well as in the proper spirit. The catch determines the attitude of the sportsman and upon his attitude his sportsmanship is judged.

Moulding Our Future Citizens

The other day we stopped at a sporting goods store, attracted by a fine window display of fishing tackle. Two youngsters, a boy and a girl, obviously brother and sister, of about 12 and 10 respectively, were already gazing intently at the many sparkling items which go to make up an angler's kit, and audibly discussing their mysteries.

"Mister," said the boy, edging close, "What's the price of these rods?" The tone of his voice was full of longing and desire.

"Thirty-five cents and up," we replied, quoting from a price card higher up on the window.

"Gee, I'd like to have a rod with a reel on it," he continued. "Which ones are thirty-five cents?" We pointed to the cheapest-looking rod we could see and suggested that was probably it.

"I guess that's the one I should have," this in a tone which had just a touch of disappointment in it.

"That reel there would do me"—pointing to a handsomely carved Shakespere level-wind anti backlash, which occupied a foremost place in the window. We suggested that that particular one was probably a little too expensive for him.

"I've got fifty-five cents saved," he responded, "but I have to get an elastic for this bat"—holding up a small bat, "and tomorrow is Mother's Day and I want to get something for Mother and my two Grandmas, but I'll still have something left."

We tried to assure him that it was still some time before school closed, and he might be able to save up enough to satisfy his desires by that time. In a kindly way we also attempted to show him that if he couldn't get his "rod and reel", he could still have lots of fun fishing with a bamboo pole which he could buy cheaply.

"I have a bamboo pole," he was quick to inform us, "but gosh, I'd like a rod and reel."

By now we were quite interested and really enjoying his youthful enthusiasm. "You seem to like fishing."

"You bet I do"—this with real warmth.

"What kind of fish do you catch?"

"Oh, they're about that size"—extending the fingers of one hand to signify about five or six inches—"but I don't know what you call them."

A pair of roller skates with a price tag of 75c on them attracted his sister, who interrupted to ask if that was all they cost. Assured that it was, she gasped with anticipation.

"Oh, roller skating," said the youthful angler, with just a touch of impatience in his voice. "I'd much rather go fishing. When Dad gets his holidays he has promised to stop several times during our trip to let me fish."

By this time he had suddenly remembered the elastic and Mother's Day gifts he was going to buy, so without any formality, "Well, I guess we better go now. Goodbye, Mister."

We wished him goodbye and hoped he would get his rod and reel!

There's a moral in this true story and it concerns you and you and you, the Dads of the Province, particularly those of you who fish and have boys of your own. This particular boy was a credit to any Dad. That gift to Mother and the two Grandmas out of his meagre savings of fifty-five cents, when he might at least have bought the rod he craved so badly gave an inkling of his character. He was no sissy, just a clean, wholesome lad who wanted above anything else to go fishing. The fact that he had been fishing and didn't know what kind of fish he had been catching showed a lack of direction. They probably were rock bass, perch, or sunfish, but might easily have been small bass.

Schools will soon be closing, and many thousands of fortunate boys will spend the summer where fishing is one of the principal recreations. If your boy is one of these, does he know what kind of fish he is catching, or is he familiar with the limits of size and take? Have you explained to him the rules of the game and how necessary it is to avoid waste in order to insure the continuance of his sport? Have you stimulated his enthusiasm, through personal interest and practical demonstration, and the gratifying of his desire for a rod and reel, however cheap? This may seem an un-

important matter, but the character building influence of properly directed outdoor recreation is vital to his future and your peace of mind. The moral value of the fishing beatitudes is recognized wherever sportsmanship is proclaimed.

The misdirected enthusiasm of many thousands of boys unfamiliar with the regulations and to whom a fish is just a fish whether it be a black bass or rock bass, perch or pickerel, may readily be the source of much waste through illegal destruction. These youths are not conscious of any limitations to their sport except geographical. In this they are hardly to be blamed, because where such conditions apply the lack of knowledge must be charged to adult neglect. There are many thousands of boys like our young friend of the store window who "just love to fish", but like him, don't know what they are catching. Like him, also, most of them are fine lads of whom any Dad might be proud, and they deserve more paternal encouragement and wise guidance in their pursuit of happiness.

Good fishing is the heritage of the boy as well as the man. It is sport of the finest type and, considered from that angle, the boy who is interested and plays the game according to the rules will seldom cause his parents any anxiety.

From the standpoint of conservation, knowledge of the regulations is of primary importance, and in seeing that the boy is conversant with these and the reasons therefor, the sportsman is helping to protect a valuable asset and contribute to the best in citizenship.

The Black Bass

The designation "game fish" suggests the fighting spirit. Few other fish in this class are such fine scrappers as the black bass. It represents the spitfires and hurricanes of the aquatic world, comparatively small in size, lightning fast in movement, strong in defense and savage in attack. Hensall, in his book on the Black Bass, has paid it the finest tribute that could be offered a gamey fish.

"The black bass," he wrote, "is plucky, game, brave and unyielding to the last when hooked. He has the arrowy rush of the trout, the untiring strength and bold leap of the salmon, while he has a system of fighting tactics peculiarly his own. He will rise to the artificial fly as readily as the salmon or the brook trout, under the same conditions, and will take the live minnow or other live bait, under any and all circumstances favourable to the taking of any other fish. I consider him, inch for inch and pound for pound, the gamiest fish that swims."

Our personal opinion coincides with that of the author, although we know that many anglers prefer the swift strike and rapid dash for safety of the speckled trout or the excitement of the more powerful but less enduring lunges of the maskinonge. As a matter of fact all of them offer thrills peculiarly their own, and each is capable of putting up a remarkable defense against all the wiles of the angler.

From the word "go", however, there is an almost unbelievable dynamic power and energy in the fight of the black bass. A two-pound small mouth is not a large fish, but if you have taken him with light tackle, from water which is cold enough so that he is naturally active, and particularly when

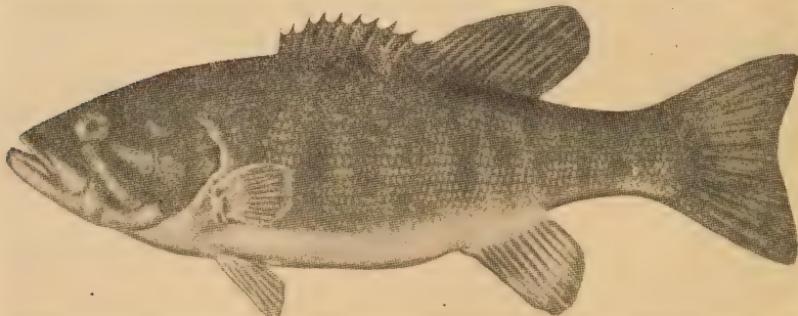
he is hungry, then you will have experienced one of the finest thrills in angling.

Because of his fighting qualities, the extensive distribution of the species, and the fact that almost any kind of lure will arouse his curiosity and lead to a strike, the bass is extremely popular. This characteristic of curiosity is quite strong and is very noticeable in the readiness of the bass to strike at almost any sort of lure even if these have no resemblance to the creatures living within its range. Other fish, like the speckled trout, for example, are very timid when a foreign body appears suddenly in the water and will immediately dart away to safety. The bass may be startled for a moment and swim away a short distance, but it invariably turns, watches the object closely, and then slowly approaches it with all the caution of a still-hunter. A sudden movement of the lure simulating life and the fight is on.

Illustrative of the curiosity of the bass we recall on one occasion going to a favourite haunt and beginning to fish. It was usually a good place for bass, but none were visible and for some time we got no bites. "Watch me bring them around," said the experienced member of the group, and so saying, he took a small gad and swished it backwards and forwards in the water. "Believe it or not", in a few moments a whole battalion of small-mouths came swimming in towards us, attracted by the unusual motion, their natural curiosity aroused.

You will very frequently see the same result if, when you hook a bass you play it for a few moments before landing it. This has the effect of attracting other bass who are curious to know what all the fuss is about.

Small-mouth Black Bass



Most fish are predaceous; the bass is extremely so, in fact it is quite cannibalistic. The parent bass, after savagely driving off all intruders from the vicinity of his nest and zealously guarding his young until they are able to swim off on their own, has frequently satisfied his appetite by gobbling up those of his own family, within his reach. In raising bass by fish cultural methods, the parent fish is usually removed when the young are born to prevent this very tragedy. The following extract from a treatise on small-mouth bass production under controlled conditions by Mr. T. H.

Langlois of the Bureau of Fish Management, Ohio, is particularly interesting as showing that the instinct is developed at a very early stage.

"Even though all fry are at the same stage of development when placed together in a pond, and all eat freely of the same food supply, they exhibit normal variations in their rates of growth. The fastest growing individuals quietly become so much larger than some of their fellows that they are able to swallow them. Eating habits are strong and individuals which have eaten smaller individuals have started a habit which they can rarely be induced to break. The predaceous individuals cease schooling with the aggregation and claim individual niches around the pond margin. The majority of the fish continue to school together, and as they range around the open waters of the pond they pass the niches of the predators. The predators dash out to capture a smaller bass as the school passes by, then retreat to their respective holdings. The small fish are scattered by such attacks but quickly re-assemble, and continue around the pond. Such a group commonly takes food readily except when chased from it by a predator, but the latter cannot be induced to take food. With the passage of time the numbers of the prey group are decimated, and when the predators can no longer satisfy their hunger by lurking and preying upon passing fish they leave their niches and go in active search of food. The predators then form a new ranging group, while the few remaining small fish are driven to the vegetational shoals for protection. When the small fish are completely eliminated the aggregation of predators turn readily to the acceptance of the food offered."

Bass, like many other species of fish, have more or less regular feeding hours, and outside of these periods are difficult to catch. Fish culturists have discovered, according to the writer previously quoted that, "bass fill their stomachs at each eating, and will thereafter eat no more until the entire contents of the stomach have been passed on to the intestine". Under fish culture methods of feeding, the process of filling the stomach need not occupy a long period because food is generously provided, but under natural conditions they will be feeding, and therefore "biting", for a much longer time. The angler has probably discovered that when they are feeding they strike freely, but when this active period is over they will resist even the most tempting morsels.

This fact was graphically brought home to us while fishing in one of the inlets with which the Lake Huron shore of the Bruce Peninsula is indented. It was fairly shallow water at the upper end where the bass were usually to be found, except for the many holes with which we were familiar. This particular day was bright and the water calm. Our best efforts in the deepest holes produced no results. Then in midstream we suddenly noticed a most interesting sight. There were rows and rows of bass arranged in formation like an army on the march, all more or less motionless and quite evidently resting between periods of activity. With eager anticipation we cast minnows, worms and crabs in repeated tries over the noses of these resting fish, but not one showed any interest in our lures. There would be a slight movement of caution when the bait first hit the water, but almost

immediately the ranks reformed and the bait sank to the bottom untouched. We decided to amuse ourselves otherwise for the time being, and when we tried again two or three hours later the action was so keen a limit catch soon resulted.

The domestic life of the bass is somewhat unusual in that the maternal instinct is more pronounced in the male than the female. It is the male who prepares the nest and guards the eggs during the incubation period, and the young until they are able to make their own way about. This is characteristic of the bass family.

From the standpoint of the fish culturist the bass also presents a problem not met with in other species of game fish. For biological reasons it is not deemed advisable to remove the spawn by the process known as "stripping". This is the simple procedure of taking the eggs from the female fish, while still alive and without injury to the fish, so that they may be artificially cultured. In the case of the bass reproduction follows the natural method, except that nests are specially prepared to permit the removal of the parent fish and so prevent loss through the voracious appetites of the adults.

The ponds in which the young are held until the time for distribution are specially fertilized to produce an abundance of minute animal life upon which the young feed, after they have absorbed the yolk sac which Nature provides for their primary nutrition.

The spawning period is usually completed and the male off the nest by the first of July, provided the temperature of the water is normal for that time of the year. However, it is probable that in some instances the parent fish may not have left the nest before the opening of the season. In such cases the angler should have no difficulty in discerning this fact because the nests are in shallow water and loom up quite clearly. Under such circumstances the sportsman should exercise restraint and leave the bass to complete its natural function of protecting its young. There is little sport in taking a bass off its nest, and sportsmanship rather than legal rights should be the guiding principle. After all, the bass has no way of appraising the opening date.

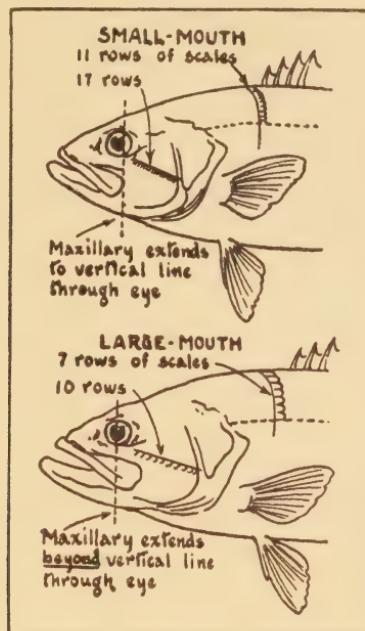
The Large-mouth Bass

As every sportsman knows, there are two species of bass on the game fish list, namely the large-mouth and the small-mouth. The latter is perhaps the better known because of its extensive distribution, but many anglers are enthusiastic about the prowess of the former. It has most of the fighting characteristics of the small-mouth except that it seldom jumps out of the water and its struggles are less enduring. The large mouth, however, is of a larger average size than its cousin the small-mouth, and this adds to the thrill of the take.

The Large-mouth Bass (*Micropterus salmoides*) is also known as "green bass". It has a fairly wide distribution throughout the Province, and is most abundant in waters which have a mud bottom and are replete with weeds and other plant life.

The reproductive process and domestic arrangements of the large-mouth are practically the same as those of the small-mouth, but whereas the latter makes its nest on a gravelly bottom which it has taken pains to clean and polish, the former deposits its eggs in a nest scooped out of the sand or mud. There they are guarded by the parent fish until hatched.

As its local name implies, the adult fish is of a fairly uniform pale green with the back darker than the remainder of the body. It is of a heavier and chunkier build than the small-mouth, and because of this fact the head, with its deep jaw, looks out of proportion. It may readily be distinguished from its cousin by observing the upper bony jaw which extends beyond the eye. In general appearance it lacks the stream-lined shape and bronze lustre of the small-mouth.



Salmoides is a favourite with the bait caster because of its savage strike and furious lunges when taken on one of the ordinary artificial lures. It requires patience and skill to fish the edge of the weed beds or overhanging bushes where these beauties lurk, for baits badly placed have a habit of becoming entangled in the vegetation.

Some 235,673 large-mouth were planted in suitable waters during 1940.

An Aerial Combat

Last Sunday, while returning from a weekend on the Bruce Peninsula, we were privileged to witness an aerial combat. While approaching one of the few pasture fields in the northern section of the Peninsula, we saw

two turkey vultures gliding to a safe landing on a wire fence bordering the field not more than seventy-five yards away. We stopped the car for a closer view.

For a few moments they rested, then flew off in the direction of some trees on the other side of the field, where two crows were flying around, obviously in a state of excitement. The vultures, or buzzards, as they are sometimes called, soared above the trees, gliding, banking, and turning on motionless wings, always approaching closer to the tree tops where one of the crows had now taken up his position.

What the domestic situation of the crows was, we had no way of telling. Perhaps they had a nest and were afraid of an attack on it, or probably they had some piece of carrion upon which they were feeding and resented the approach of the larger and more formidable birds. In any case the intrusion was resented, so the spitfire on the tree top swiftly took to the air to repel the invaders.

It attacked one of the vultures from the rear, and although labouring to keep up with its enemy, flew within a few feet of it, ever and anon darting in to strike with its bill, while both went through all the evolutions and aerobatics common to a real aerial combat. The second vulture criss-crossed the line of flight and the crow would suddenly change its attack from one to the other.

It was a courageous fight, although from our observations the vultures made no attempt to counter attack, but contented themselves with manoeuvring to get out of the way of their pestiferous attacker. The crow looked so small and frail in comparison with its larger and heavier opponents that, even if it has a reputation for killing and destroying which has outlawed it from all respectable company, one could not but admire its fighting spirit.

Further and further away from the trees the combatants circled, the crow keeping up its attack with a dash and daring reminiscent of the best exploits of the R.A.F. fighters under heavy odds. For many minutes they circled, banked sharply, dived steeply, or zoomed upward, the crow in high gear, the vultures in effortless motion.

There was a certain amount of strategy in the spitfire's attack. It contrived to push the vultures away from the trees by striking in such a way that they were forced to continually change direction, and that always away from the vital area.

At last the enemy had been driven high into the air, and the crow more or less exhausted, broke off the struggle and returned to rest on the wire fence from which the vultures had taken off. There it remained for some time, keeping watch on the black bombers which continued to circle high overhead, and when finally assured that the enemy had been driven off, flew back to join its mate and give the all clear signal.

Such a scene is not uncommon in the world of Nature, but to us it was really fascinating and fascinatingly real. The action was typical of the best in aerial manoeuvring and aerobatics, and the crow striking with savage

fury reminded us of the courage and bravery with which our youthful gladiators of the air patrol the sky lanes and do battle, sometimes against fearful odds.

Concerning the Turkey Vulture (Turkey Buzzard)

The Turkey Vulture appears to labour under a misnomer. The dictionary defines a vulture as "a voracious bird of prey", but according to the best authorities it is not a bird of prey in the accepted sense of the term, for it does not kill, but feeds entirely on carrion. Taverner says, "They have been accused, and perhaps justly, of accelerating death at times, but they never attack an animal that is not in the last stages of dissolution. In Canada, the species is of little economic importance, but in the south their scavenging is an important safeguard to the health of the more careless communities and in many typical places they are rigorously protected by law for sanitary reasons."

In Ontario they are frequently found in the southern section, more particularly in the area bordering Lake Erie. However, they are not very common here, having their habitat principally in the southern states.

"The flight of the Vultures," to quote again from Taverner, "Is one of the wonders of the physicist. The Vultures hang suspended in the air or even rise beyond the bounds of human vision without visible effort. On motionless, outspread pinions they glide in great ascending spirals, mounting higher and higher, and then, always circling, maintain their positions for hours at a time, apparently without a single wing stroke. Many explanations of the phenomenon have been offered but all so far advanced fall just short of conviction."

Creel Limits

Creel limits are of very great importance in the conservation plans designed to maintain and develop the game fish resources of the Province. They are intended to prevent the too-intensive taking of any one species, and are based upon the abundance or scarcity of each species. They also provide in some measure for an equitable distribution while taking cognizance of future demands.

Obviously it is impossible to create limits for each body of water, although in some areas certain fish may not be as plentiful as in others and a smaller limit in these areas might be justified. It is much simpler to provide and enforce regulations which are general in their scope, for then there is less excuse for the public being unacquainted with them.

There is a tendency, however, among many of those who enjoy angling, to set the limit as the goal to be reached instead of a directional restriction beyond which it is forbidden to go. Many still consider the fishing poor unless the creel contains the limit. This attitude is not so much the result of any real need or desire for an excessive number of fish, but is frequently due to that peculiar psychology of mind which feels that unless the ultimate has been reached success has not been attained, nor personal vanity vindicated.

As a matter of fact the experienced and successful angler is generally well informed on matters pertaining to his sport, and he is content to base his standards of success upon the sport rather than the catch. This is the angle all good conservationists seek to stress, for it implies that need within legal limitations, rather than the attainment of limits without reference to personal requirements is the proper and sporting interpretation of the regulations which prevail.

Another phase of the matter which mitigates against the universal practice of the ideal that limits are "signboards" not "targets", is the fact that the possession of a creel limit usually implies that the fish have been biting freely, and when this happens it is difficult to restrain one's enthusiasm and quit before one has to. Nevertheless it is worthwhile remembering that under such conditions personal restraint is desirable and is part of the unwritten law of the sport.

Whenever it is found necessary limits will be reduced by regulation, but this merely serves to make compulsory what should be an individual responsibility. The success of the conservation programme depends in large measure upon the co-operation of the individual, and this is one method by which the angler can do much to protect his own interests. A limit of catch is quite legal, and the angler in possession of such open to no criticism, but as a matter of conservation, 'need' rather than 'desire' should govern the take.

The Bull-frog (*Rana catesbeiana*)

That part of the conservation programme which provides for open and close seasons is largely intended to protect fish and game during the reproductive period. A close season which is not so well known as some of the others is that which prohibits the taking of bull-frogs during the months of June and July in each year.

The economic value of the bull-frog (*Rana catesbeiana*) as a table delicacy is generally recognized. The meat is white, not unlike chicken, and when fried in butter is really delicious. In many swank hotels or restaurants, particularly in the United States, frog legs with the necessary trimmings command fancy prices.

The following extracts from a brochure on the "Frog Industry in Louisiana" published by the State of Louisiana, Department of Conservation, provide interesting information on the life and habits of the common bull-frog.

Life History (general)

These amphibians begin their existence in the water, and their later development enables them to be at home on land or in water.

The general form of the body, the shape of the head, the long hind legs adapted to jumping, and the webbed toes for swimming, are practically the same in all frogs.

The adult frog has several peculiarities which set him apart from other vertebrates. At times he literally breathes through his skin, and it is done in this manner:

The lungs are hollow sacs that lie back of the stomach. The oxygen of the air passes both through the skin and the lungs into the blood of the frog, and the carbon dioxide is thrown off through the skin and the lungs also. The frog is furnished with large blood vessels close to the skin, especially along the back. These blood vessels send many fine branches into the skin. This explains how frogs breathe through their skins.

When the frog remains under water a long time, especially in winter, all oxygen enters the blood through the skin. In fact what air does enter the lungs is swallowed into them instead of being breathed into them, and it has been proven that even with the lungs shut off a frog can get enough oxygen to maintain life under certain conditions, among them being that the temperature is low and that the frog remains relatively quiet.

The mouth of the frog is large, and short lips cover the short teeth in the edge of the upper jaw. The tongue is curiously formed, having two fleshy horns at the back end, and is attached at the front end to the floor of the mouth. The frog can throw its sticky tongue over the tip of the lower jaw, and use the forked end to catch insects which are then carried to the back of the mouth. Two groups of little curved teeth on the roof of the mouth aid in preventing the escape of the prey.

Reproduction

The fundamental process of reproduction in the frog family is the same as in all other animals, but there is introduced the tadpole stage, which makes the reproduction of the amphibians different from that of any other vertebrates.

Breeding Habits

Early spring is the season when the frogs emerge in large numbers from hibernating. When warm weather sets in they are particularly active at night, their avoidance of sunlight keeping them under cover during the day.

In April the large bull-frogs are ready to lay their eggs, but no matter how warm it is, their calls are seldom heard until after the first heavy spring rains, which occur during the latter part of March, or early in April. The first male frogs to find a suitable breeding spot (usually a deep section of the swamp) begin to call, and within a few days a thousand or more may gather and sing in one deafening chorus.

Egg-laying begins immediately after the females, attracted by the call of the males, find the breeding place, and large masses of many thousands of eggs are laid by each. During the egg-laying time the male embraces the female, but the eggs are fertilized in the water, and are left to hatch by the heat of the sun.

The eggs are surrounded by a jelly-like substance that holds them

together. As the eggs are being laid by the female frog, the male frog spreads a large number of sperm cells over the whole mass. These sperm cells make their way through the soft jelly and one of them must enter each egg, or else it will not be fertile.

The Transformation

As soon as the young tadpole hatches, which is in a few days, it attaches itself to plants, and lives for the first few days upon the food-yolk within its own body, the mouth forms and horny jaws develop. Then the tadpole feeds upon the minute plants and becomes dependent upon its own skill to get food and escape its enemies.

In the growth of the tadpole into a frog the hind legs appear first. Later the front ones begin to grow, and as they develop the tail is gradually absorbed. While these external changes are going on, there are many complicated changes taking place; internal gills are disappearing, and lungs, nerves, blood vessels and muscles are being formed to give the new legs life and action. The internal lungs take the place of the gills in the throat before the legs are fully grown, and such tadpoles must rise to the surface to breathe air.

Different species take different times for their metamorphosis into frogs. The tadpoles of the leopard become small frogs in a single summer, while those of the bull-frog transform into frogs in the fall of the year; others transform the following spring when about one year old.

Adults

The bull-frog appears to reach maturity in about four years, and probably spawns for several successive years. During the breeding season the adults gather together in colonies, but by May or June the chorus begins to disband and the individuals scatter over a large territory in search of food. Until the first chilly days of September the bellow of the common bull-frog and the hog-like grunt of the lake frog can be heard, although not in the same intensity as during the breeding season.

It should be noted that spring is much earlier in Louisiana than in Ontario, and that due to its longer hibernation and consequent scarcity of food for a greater period, reproduction and development of the bull-frog is much later and slower here. (*Editor*)



DRIVE CAREFULLY

The modern highway is the graveyard of a great deal of wildlife—more even than meets the eye. It is a common sight to see birds and mammals in all stages of battered disintegration lying on the pavement, mute reminders of the hazard to man and beast which our craving for speed in transportation has created. A young deer was destroyed on the Queen Elizabeth Highway between Toronto and Hamilton the other day, a fact which would probably be considered unusual in view of the continuous traffic on this particular highway.

We are reminded of this perpetual hazard by noting a report of game killed on highways in the State of Pennsylvania. It is taken from the Biennial Report of the state for 1939-40, and is as follows:

"During the twelve-month period from May, 1939, to May, 1940, the State Motor Police, in co-operation with the Commission's field force, made a survey of game killed on the highways. While their reports represent only a cross-section in many cases, and while they may be either too conservative or too exaggerated in others, the figures nevertheless are interesting and prove that the automobile is just another factor which helps deplete the ranks of our valuable wildlife.

The survey shows that the following dead birds and animals were found: Grouse, 94; pheasants, 777; quail, 49; miscellaneous birds (wild), 343; deer, 482; opossums, 442; rabbits, 13,166; skunks, 5,574; squirrels, 199; woodchucks, 222; miscellaneous mammals (wild), 133; cats, 2,488; dogs, 893; and domestic fowl, 72."

There are no available figures for the Province of Ontario, but it is safe to say the totals would be much less, because a great deal of our country is still unopened to motor travel. Nevertheless a substantial toll must be taken yearly, and much of this could be avoided by a little more care. Frequently contact with wildlife on the highway results in personal or property damage and this is all the more reason for sane driving. The season for extended motor travel is upon us, and congestion on the highways may be looked for. Drive carefully. Wildlife is slow compared with the speed of the modern automobile.

The following from a recent issue of Britain's humorous and popular magazine "Punch" is significant of the longing of many thousands of brother anglers who are engaged in the serious business of defending the Empire. Let us hope that "the present job" upon which the writer is engaged will not be unduly prolonged, and that he may soon again be enabled to discard his gun for his "greenheart" and witness the "evening rise" in an environment of peace.

A FISHERMAN'S PRAYER (1941)

Grant me this prayer, O Lord,
That when my present job is done
I may return once more
To those quiet haunts
By reed and river,
Sedge and sand.

To wander down the old familiar paths,
Find mill and meadow as they always were,
See the first mayfly on the Orchard Pool
And hear the stock-dove in the Manor woods,
Or by the Bowmen's Ford
Feel in my face again
The sting of April rain.

But best of all, O Lord,
To stand below the Rectory stepping-stones
Waiting the evening rise,
My greenheart in my hand.

—G.C.N.





ONTARIO

Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

July and August
1941

EXHIBITION NUMBER

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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An Invitation

FOR well over a hundred years it has been the proud boast of the two English-speaking nations which inhabit the North American continent that there are no guns or defence barriers along the extensive boundary separating the two countries. It has been no idle boast, but rather a splendid gesture amplifying the good relations which exist between two friendly peoples, and an example to the world of the possibilities for perpetual peace which may readily be established when fear and distrust are eliminated from the sphere of international relationships.

In pursuance of this policy, Canada has lowered her customs barriers and thrown open her vast domain to the peaceful enjoyment of all those who cross her borders in a friendly spirit seeking a new environment, healthy sport and the hospitality of her peoples.

Visitors who enjoy the outdoor life may come to Ontario with full assurance that our resources of fish and game are for the most part still unspoiled, that our water areas still contain an abundance of natural food, are very largely free from pollution, and as a consequence produce annually more than enough fish to take care of the demand. This natural production is implemented by intensive fish culture operations in hatchery and rearing pond.

The great hinterland of the north, extending from the Quebec to the Manitoba boundaries, presents a vast territory of wild land and virgin forests, much of it still unexplored, but all of it broken up and dotted with countless lakes and rivers, many of them into which a line has never yet been cast.

The southern section of the Province is more populous but equally inviting. It, too, is rich in outdoor attractions, and its numerous water areas still abound in fish. Modern highways make travelling easy.

The recreational possibilities of this extensive natural playground are too well known to require elaboration. Throughout all of the territory summer resorts and camps located by lake and stream, or on many of the picturesque islands which dot the water, offer a variety of accommodation and service to suit all tastes.

To those who have never yet crossed our peaceful frontiers we extend a cordial invitation to visit us; for those who have already paid us a visit, and therefore need no introduction to our hospitable shores, the "welcome" sign still flies high.

Foreword

The annual Canadian National Exhibition, in which the Department of Game and Fisheries has a permanent home for its exhibit, provides an opportunity for hundreds of thousands of citizens to renew their interest in a heritage of very great value to the people of Canada. Here are exhibited, year after year, in a background which is both pleasing and restful, many species of game birds, mammals and fish, depicting a cross-section of the world of nature.

The resources represented by this exhibit of food, fur and fun are part of our common inheritance. They are a part of that great heritage which patriotic speakers are wont to dwell upon, and which extends from sea to sea, and embraces a generous and extensive distribution of those natural assets which are the foundation of national wealth.

Wild life, which is intended in this instance to identify all those species which are of material worth, has a threefold value, namely, economic, recreational and aesthetic. All of these are important because they represent the requirements necessary to national prosperity, social development and individual happiness. Following this declaration of fact it is not too much to say that wild life occupies a sphere of importance beyond that generally recognized.

As this publication primarily concerns the Province of Ontario we shall, in reviewing the development of our wild life, confine our remarks to facts and figures relative to this Province.

Economic Value . . . Fur

In discussing the economic value of our wildlife resources one naturally thinks of the fur-bearing animals, the trapper and the allied manufacturing industries. The history of the fur industry is closely associated with the development of this country. The spirit of adventure was strong in the days before Confederation, and the business of producing and buying furs was a leading industry. It was the trapper and the buyer who opened up the hinterland of the country, and revealed much of its hidden wealth.

Today, the glamour of the trap line still persists although much of the romance and adventure has gone out of the business. The trapper of today in the Province of Ontario does not require to wage a continuous battle for trapping privileges on an area which by priority rights he has come to look upon as his particular sphere. Licenses are issued in the northland covering certain designated townships or other areas and these, for trapping purposes, are restricted to the licensee. This gives the individual trapper a trap line free from competition, and places the responsibility for the proper care of the resources which it may contain squarely up to the individual most immediately concerned.

During the 1939-40 season about 8,000 trappers were engaged in the business of producing furs. To many of these it was a whole-time job, to

others merely a means of adding to income during a production period such as the open season for muskrat or beaver. It was a very profitable season, too, judged by the standard of comparison with the previous year.

According to information compiled in the Department from reports received from various fur dealers it has been estimated that fur taken by trappers during the season of 1939-40 was worth the total sum of \$2,343,648, which is more than twice as much as the proceeds of trapping operations produced in the previous season. A large percentage of this increase was attributable to the proceeds received from the sale of 33,530 beaver pelts which were estimated to be worth \$581,745.

So far as the fur business is concerned, however, this is but part of the story. Fur farming has opened up new prospects in the industry and the production of domestic pelts from fur animals raised in captivity has assumed fairly large proportions. The estimated income from this source during the period under review amounted to \$1,050,463, so that the entire fur production of the Province amounted to \$3,394,112.

The following table shows the number and variety of pelts represented in the total taken by the trapper:

Bear	295
Beaver	33,530
Fisher	1,382
Fox (cross)	981
Fox (red)	19,925
Fox (Silver or Black)	101
Fox (white)	36
Lynx	514
Marten	1,790
Mink	36,318
Muskrat	689,706
Otter	4,101
Raccoon	14,493
Skunk	74,176
Weasel	95,832
Wolverine	2

Game

The economic value of the game resources, birds and mammals, cannot be readily estimated in terms of dollars and cents. This stock-in-trade, so to speak, is both elastic and elusive. It fluctuates from year to year, because of natural cycles of abundance or scarcity, and it frequently suffers from unnatural hazards such as forest fires and human aggression. Its elusiveness consists in the fact that it is unconfined, untamed and therefore not readily inventoried. Its value, however, may readily be assumed by reference to some of the by-products of trade for which it is partly responsible.

In the first place it has a very large food value which is often overlooked. Take the annual deer hunt for example. An average of 25,000 hunters take to the bush each Fall, deer being the incentive but relaxation the objective. It is not known exactly how many of these men are successful in obtaining a deer, but fifty per cent would probably be a very conservative estimate. This means 12,500 deer taken each Fall, which at an average weight of one hundred pounds per carcass represents over six hundred and twenty-five tons of meat.

In addition to deer, thousands of pheasants, rabbits, ducks, partridge, etc., fall prey to the hunter and provide many tons of additional food. Even the lowly muskrat has become a much-sought-after table delicacy.

The food value of the game which is taken by hunters each year is therefore of considerable importance.

Related Industries

Every hunter who sets out in pursuit of game must of necessity spend money on equipment and supplies. He requires transportation, food, clothing and frequently accommodation. These embrace a wide variety of industries and are the nucleus of large scale employment and economic progress.

Fisheries and Fishing

The commercial fishing industry of Ontario is the largest inland fisheries in the Dominion, and makes a substantial contribution to national revenue. According to reports received in the Department over four thousand men are employed harvesting Provincial waters, and last year they produced some 27,966,956 pounds of fish. This is approximately fourteen thousand tons. In cold cash it represents some \$2,226,418.

This industry, too, helps to provide work for many other branches of allied industry such as the manufacture of twine, nets, boats, machinery, etc.

Fishing

Anglers in this Province are counted by the hundreds of thousands. Our heritage of game fish is perhaps the finest on the continent, both for variety and abundance. The economic value of this endowment is a vital factor in our national revenue.

The amount of food provided through the efforts of those enthusiastic men and women who love to fish must reach huge proportions in the course of a season. It would be idle for us to try to even approximate the total, but if each individual will multiply his own average take by several hundred thousand he will get some idea of the contribution made to the food supply by the sporting fish of the Province.

There are in addition the industries which cater to the sportsmen in general and the angler in particular. These augment and are closely related to those catering to the hunter, and both provide a wide and substantial market for industry.

The Tourist Trade

Tourist advertising, private and governmental, all stress the outdoor attractions of the country. In this respect the Province of Ontario has been richly blessed. Our almost uncountable lakes and streams, the former dotted with thousands of islands, large and small, our extensive forests and wild lands where Nature reigns supreme, and our camp and Summer resorts, built to take advantage of every beauty spot, provide an allure which is hard to resist.

The beauty of the outdoors is augmented by the fact that our water areas are well stocked with fish, every effort being made to keep them so, and our forests replete with game of every description. Without these, tourist advertising loses its drawing power for millions of prospective visitors.

Other countries and States are rich in historic landmarks, monuments of architecture or artificial attractions, and as such have a wide appeal, but the Province of Ontario is Nature's playground, unspoiled, much of it undeveloped, the perfect prescription for health and relaxation.

It is generally admitted that the good fishing to be found in the Province is not the least of its attractions to tourist visitors.

When it is remembered that the tourist industry is one of our leading industries and that it never was of more vital importance than it is today, the economic value of good fishing will be apparent.

In this connection it is well to remind the people of the Province that the intensive efforts which are being made to increase the volume of tourist business is part of our war effort and as such demands the complete co-operation of every citizen. Every dollar of American money left in this country by American visitors helps to build up the balance of foreign exchange so essential to enable us to pay for war supplies purchased from that country.

Summary

This brief exposition of the economic value of our wildlife resources is intended primarily to show that this natural heritage is a factor of some importance in the progressive development and prosperity of the country. Natural resources are the bulwarks upon which much of our stability and security depends, and each of these resources must be husbanded so that its value will not be impaired through our own shortsightedness.

Recreational Value

While wild life has a very great economic value it also provides a means for recreation and relaxation that may conceivably become of even greater importance than are its financial values. In normal times our social progress and standards of living have not been attained without stress and strain. They have introduced us to congested industrial centres, mass production methods, speed in transportation and a general restlessness in our way of

life. Another strain has now been added—the threat to our national existence—war and all it entails!

These conditions induce physical weariness and mental fatigue, and for these the antidote is rest and relaxation. No other outdoor recreation offers greater opportunities for recuperation than fishing and hunting. The environment for these sports is clean and wholesome, the soothing influence of the outdoors is conducive to rest, and actual participation affords the necessary change.

Fishing, for example, is a truly democratic sport. The boy with the willow pole and can of worms rubs shoulders, so to speak, with Kings and Presidents in the fraternity of anglers. Costly equipment is but a means to an end, that end being the personal pride of the owner in those refinements of tackle which permit a wider exercise of skill and a greater variety of thrills.

It is a non-competitive sport, and can be played alone or in company, but it has little or nothing to offer the spectator in the way of excitement. Only the angler can properly enter into the spirit of the game, and for him the thrill of the strike, the song of the reel, the tension on the rod and the fight for supremacy are reserved. Unless you have experienced these sensations you cannot possibly appreciate the universal appeal of fishing.

Health

But recreation such as this means more than mere sport—it is a passport to health, and good health is of paramount importance, for without it life loses much of its savour. On his trips by lake and stream the angler is privileged to enjoy pure air, warm sunshine and refreshing breezes, and he returns therefrom bronzed by sun and wind, his whole body radiating energy and his mind refreshed by the soothing effects of a new and wholesome environment.

Morale

An important part of any scheme of national defence is the morale of the people. To break the spirit of the civilian population of Britain has been the object of the destruction wrought by the German air force on homes, churches, hospitals, etc. It has not succeeded, for the courage and fortitude of the race is one of its proudest traditions. Nevertheless, the constant strain of withstanding the worst the enemy can do; the sacrifices of men and material necessarily involved; the rationing of food and other necessities, and the inevitable dark days when in the face of tremendous odds the fight seems hopeless, produce physical and mental fatigue which must be constantly resisted. Any weakening of determination, any dissipation of strength or courage is fatal to a successful outcome.

Morale can only be maintained through a proper mental perspective. Tired bodies or minds dulled by sorrow or anxiety are less capable of standing up under the constant strain of war. Even when every resource of the nation must be mustered for war purposes and every available ounce of man-

power devoted to the task there must be provision for rest and recuperation.

No other recreation offers advantages comparable to that of fishing. It is not exacting, yet is capable of affording plenty of action; it is personal, therefore completely diverting, but best of all, it leads the participant into an atmosphere which in itself spells peace.

You will recall that after Munich, when Mr. Chamberlain was physically tired and mentally worried, he sought relief fishing on his favourite salmon stream. And all the world knows that when Mr. Roosevelt desires temporary respite from the cares of his executive position he orders a warship or the Presidential yacht and goes fishing.

Aesthetic Value

Nature lovers are perhaps more numerous than sportsmen—although be it said, most sportsmen are lovers of Nature—and for them wild life provides a never ending source of pleasure. To view the things of Nature in their natural surroundings; to know and hear the songs of the birds, the call of the loon or the hoot of the owl, but above all to appreciate the beautiful colourings with which Nature has so lavishly endowed her offspring, these are some of the reasons why wild life has an additional value that cannot be measured in terms of material wealth.

Conservation

We hope it is now obvious that our wildlife resources are not just game and fish but that they represent an asset of very great national importance. That being so they must of necessity play a part in our economic development and war effort. It is the responsibility of every citizen to see that they are properly protected and used with discrimination.

The regulations not only provide generous limits and freedom of access, but they also serve to take care of supply and demand. Without such regulations effectively enforced depletion would soon follow and this is but a step to extermination. The first requisite therefore, for the individual who would use these resources for his recreational pleasure is a knowledge of the conditions which govern and a complete observance thereof.

In its relation to wild life the word conservation is frequently misunderstood. Many people get the idea that it is something more idealistic than practical and as a consequence fail to realize that the fundamental principles are to be found in every effort which will ensure the preventing of waste of the resources involved and the guarding of the interests of the general public in these natural assets.

To prevent waste of resources and losses due to harmful forces is the function of every well-directed effort along conservational lines. There are many factors to be overcome in this regard. There are, for example, losses due to environmental changes caused by agricultural development—clear farms do not make desirable havens for wild life; losses due to the drying up of streams and the changing of water levels; losses due to natural enemies and the depredations of unscrupulous humans, etc. All of these take their

toll and make the task of maintaining and developing the supply more difficult.

Conservation is the policy of protection where such is needed, renewing where such is possible and restoring natural conditions where such can be done without interfering with land development.

In this broad programme designed to maintain the economic and recreational value of a natural asset the co-operation of every citizen is necessary, but the sportsman by reason of his direct interest must be particularly vigilant in guarding his heritage because in the final analysis the success of the conservation programme depends upon his attitude towards it.

Conservation by Administration

When democracy revolted in 1215 at the assumed prerogatives and dictatorship of kings, and the barons at Runnymede exacted from the reigning monarch, King John, the Magna Charta of our social and political freedom, a change in the Common Law with regard to wild life in its natural state seems to have taken place. Previous thereto ownership appears to have been vested in the King, who claimed such ownership in his individual capacity and as one of his many personal prerogatives. Since then it has been permanently and definitely established that the sovereign holds such property, not legally reduced to possession, as the representative of and in trust for the people of his realm. Canada retains the Common Law of England and so the ownership of wild life remains a trust of the Crown for the people.

In the Province of Ontario the Department of Game and Fisheries is charged with the administration of this heritage and, while its policies are fairly well known to all those who are interested, it may not be out of place to recapitulate in this Exhibition number some of its activities.

It should be noted that its policy of administration is generally alluded to as a programme of conservation, designed to cover the proper use, perpetual renewal and general supervision of its trust. This programme has many different phases, each having a bearing on the ultimate result. In other words, conservation is assured, not by any single investment or panacea, but by the co-relation of many activities necessary to the development of the different species involved.

Fish Culture

One of the most important phases of the conservation programme is the artificial hatching and raising of fish by methods which might be termed "mass productive". It is only possible, of course, to hatch fish from eggs, and these must be furnished by parent fish. Nature has provided in a generous way for the reproduction of fish under natural conditions, but this fecundity is only part of Nature's plan for amplifying one of her first laws which decrees that the development of life in the natural world is dependent upon other life which it must consume in order to survive. Thus under

natural conditions, only a very small proportion of any one species of fish will live to maturity.

There are a great many varieties of fish in the waters of the Province, but man has decided that only a few of these are desirable from the economic and recreational standpoint, and so these are sought after and taken in larger quantities than Nature, in her scheme of things, intended. The result of this concentration on a few species is that the reproductive capacity of these classes is overtaxed and in due course would not take care of the demand.

Two phases of natural losses must be overcome in order to stimulate increased production. One is the loss which occurs from the destruction of eggs by other fish or from various other unnatural causes; the other is the destruction of a large proportion of the small fish which survive the egg stage by larger fish of all kinds.

Under fish culture methods all of the eggs are preserved because these are taken from the female fish by the process known as "stripping", and protected from the ravages of other fish. Thus a primary loss is taken care of. Properly fertilized and carefully looked after these eggs will produce a very high percentage of young fish.

It follows that if the production of any species is increased a much greater proportion will survive to maturity. While this does not completely eliminate the second problem it does ensure more effective re-stocking.

Artificial reproduction also enables the Department to re-stock areas more quickly and effectively with fish suitable for the particular waters involved.

In the case of speckled trout, brown trout and rainbow trout, the proportion of losses has been further reduced through the successful operation of rearing ponds in which the young fish are held and fed for over a year, by which time they have in many cases reached almost the legal limit in size, and in all cases are much more capable of protecting themselves against other predaceous fish. Here the proportion of fish which attain maturity should be quite high and the re-stocking of streams greatly facilitated.

The cultural methods employed in the artificial production of fish follow very closely the natural process, except that enemies are eliminated and much more care exercised in attaining the desired results.

There are some twenty-seven Fish Hatcheries in the Province, widely distributed for convenience in taking care of the many districts involved and working at capacity most of the time. To take care of the distribution and planting a number of tank trucks are employed. These begin hauling fish from hatchery to lake and stream just as soon as the ice breaks and transportation is possible, and continue operations until the freeze-up in the Fall.

The extent of the fish cultural operations and the transportation problems involved in transferring the results to suitable waters will be appreciated when it is noted that the total distribution of hatchery-raised fish last year amounted to 853,620,711.

A table showing the details is appended.

Distribution of Fish in Inland Waters . . . 1940

<i>Species</i>	<i>Fry</i>	<i>Fingerlings</i>	<i>Yearlings & Older</i>	<i>Totals</i>
Lake Trout	1,675,000	3,281,100		4,956,100
Speckled Trout		611,175	3,285,264	3,896,439
Brown Trout		182,725	252,000	434,725
Rainbow Trout		298,420	19,724	318,144
Kamloops Trout.....			26,500	26,500
Atlantic Salmon		46,385		46,385
Large-mouthed				
Black Bass	230,000	5,500	152	235,652
Small-mouthed				
Black Bass	2,512,500	449,154	1,679	2,963,333
Maskinonge	2,345,000	2,333		2,347,333
Yellow Pickerel	349,025,000		100	349,025,100
Herring	11,750,000			11,750,000
Whitefish	70,427,000			70,427,000
	437,964,500	4,876,792	3,585,419	446,426,711

Distribution of Fish in Great Lakes and Bay of Quinte 1940

<i>Species</i>	<i>Eyed Eggs</i>	<i>Fry</i>	<i>Fingerlings</i>	<i>Totals</i>
Herring		20,800,000		20,800,000
Lake Trout	200,000	5,634,000	4,286,000	10,120,000
Perch		13,000,000		13,000,000
Yellow Pickerel	5,000,000	41,862,000		46,862,000
Whitefish		316,412,000		316,412,000
	5,200,000	397,708,000	4,286,000	407,194,000
Total Distribution.....				853,620,711

Big Game and Game Birds

The problem of developing and protecting big game such as moose, deer, caribou and elk receives considerable attention. Obviously such game cannot be increased by any process savouring of domestication or mass production. Wild life must remain wild or it loses much of its economic value, and in order to keep it so it must be propagated under natural conditions. Close protection in a confined area and artificial feeding would soon produce a species too tame to have any sporting value and of little or no attraction to the Nature lover.

In addition to the protection afforded by the regulations, a great deal of wild land has been set aside as sanctuary for game and in these areas complete protection is afforded. Much of this land is located in Northern

Ontario where suitable environment prevails and the game is permitted to reproduce under natural conditions and minus any interference from man. These areas are quite extensive and provide a wide range as well as every variety of habitat.

Further protection is afforded by the provision of a \$25 bounty for every mature wolf destroyed.

In the case of moose and deer the development of the herds has been steadily maintained and successful hunting carried on for over half a century. Whenever such has been necessary closed seasons have been established for varying periods with successful results.

Caribou and elk have been protected for many years. Only a relatively few of the former are to be found in the Province, mostly in the north-western section, and these are being husbanded in an effort to increase the herd. A number of years ago elk were re-introduced to Ontario from Wainwright Park, Alberta. These have been maintained in sanctuaries and have made such progress that within recent years a number have been released to wander at will in various parts of the country.

For a number of years intensive propagation of the English Ring-neck pheasant has been carried on by the Department, and within a five-year period well over 100,000 of these excellent sporting birds have been released in suitable areas. These birds have become fairly well established where the climate is suitable for them, and the Fall pheasant shoot is now a featured part of the hunting programme.

Introduced to the Province many years ago from Alberta, the Hungarian partridge is now to be found in reasonable numbers in many parts of southern Ontario extending from Essex County in the west to Cornwall in the east.

Other species of game have maintained their natural cycle; partridge and jack rabbits having provided excellent sport during the past year, while ducks have increased in numbers.

In 1938 an extensive sanctuary for waterfowl was established at Hannah Bay on James Bay to provide protection for the geese which nest in this northern section.

Game Preserves

Reference has been made to game preserves in Northern Ontario, but the scheme is more widespread and covers most of the Province. While those in southern Ontario are not as large as the closed sections in the north, where the need is greater, they serve a very useful purpose, particularly in the development of small game and the protection of game birds. All told there are now some 121 Crown Game Preserves in the Province and these cover a total area of over 6,100,000 acres.

Regulated Game Preserve Areas

Some seventy townships have been declared Regulated Game Preserve Areas and, while these do not provide complete sanctuary for game, the

hunting in them is controlled by license and these are restricted in numbers. To this extent they provide additional protection for game and have served to establish the pheasant and make possible open seasons for same.

Game Laws

Administration of this natural asset must of necessity include laws and regulations governing present use and future security. The Game and Fisheries Laws cover every phase of these matters and also provide authority for such regulations as may from time to time be found necessary to meet changing conditions. They have been developed over a long period of years and embody the results of scientific research and practical knowledge. They are the most important part of the administrative programme because they regulate supply and demand and provide that the practical efforts to conserve the resources will not be nullified by unwise use.

Social and political security are only possible through regulation and the means to enforce the laws, and when these are flouted by irresponsible individuals the whole fabric becomes less secure and the smooth rhythm of good government suffers thereby. The same conditions apply in every phase of our economic life; in fact "freedom of action" is merely a relative term, because it exists only within the limits of the laws which govern.

The Game and Fisheries Laws provide for a broad and generous use of the resources, therefore there is little or no excuse for infractions. Those who enjoy fishing and hunting or who are interested in wild life from any other angle which embodies the taking of fish or game should make themselves completely familiar with the laws and regulations and co-operate in the proper handling of this valuable heritage.

Enforcement Service

While human nature remains as it is means of enforcing laws will always be necessary. The Department's field officers are an essential part of the administration and they play an important role in the conservation of the resources. A large number of men are employed on this work, but they have extensive districts to cover and their work would be less onerous if sportsmen, in the interest of their sport, would co-operate with them more freely and accept a larger share of the responsibility for seeing that the depredations of the poacher and the law-breaker are neither countenanced nor permitted.

A voluntary group of sportsmen and Nature lovers known as Deputy Game Wardens lend a great deal of moral and practical support in checking and preventing breaches of the law. They are provided with identification badges and armed with the necessary authority to take individual action where such is called for.

The Department would prefer to find respect for the law so complete that prosecutions would be unnecessary, but until such a happy state has been reached vigorous action to counteract misuse will continue to be taken.

Organized Effort

In addition to the work of the enforcement officers and deputy wardens a great deal of co-operation and support is given by the Fish and Game Protective Associations throughout the Province. There are close to two hundred of them and they represent the organized effort of sportsmen to conserve the resources through educational and practical means. They lend a great deal of weight in consolidating public opinion towards a proper appreciation of the value of the resources and respect for the laws which govern their administration. From practical experience they also furnish a great deal of knowledge valuable in the framing of the regulations, and make a useful contribution to the conservation programme by assisting in the work of re-stocking. Every sportsman should be a member of a protective association.

Summary

Such in brief is a general outline of the nature and values of the wild life of the Province and the means which are employed to maintain and perpetuate it. As an economic part of our national life it is of tremendous importance and will become more so as the strain of war continues to make heavy demands upon our wealth and material resources.

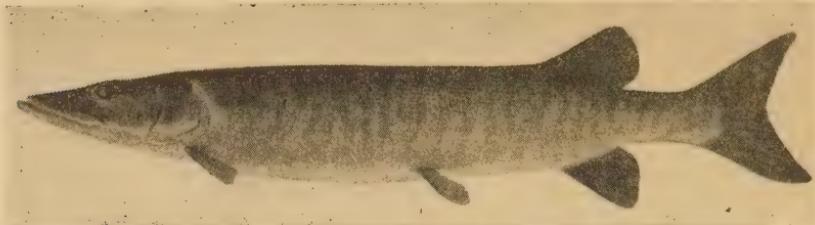
It should be appreciated that the difficulties of protecting such vast resources spread over an extensive area are very considerable, and that only the complete co-operation of the public will ensure the success of administrative effort. The majority of sportsmen never were more conservation-minded than they are today, and sporting ideals have reached a high plane. This is a splendid augury for the future not only of the sports of hunting and fishing but also for the protection and development of the resources which make them possible.

Notes on the Maskinonge

The difference in names, both scientific and popular, by which various species of fish are known in this country and in the United States is somewhat baffling to the inexperienced angler. Take the Maskinonge for example. The Century Dictionary, according to a writer, gives about twenty-five different ways of spelling the common name. For almost three score and ten years this particular fish has been officially known in the Statutes of Canada as the "Maskinonge", and as it was first recognized in this country there is justification for retaining this particular spelling.

* * * * *

The Maskinonge spawns in the Spring shortly after the ice has gone—late April or early in May. The spawning takes place in very shallow water among the reeds and rushes, and very often in flooded areas. This fact is responsible for considerable loss at times, because it frequently happens that after the eggs have been deposited and before the young are born or able to get away the flood waters subside or the dam levels are lowered leaving the hatches high and dry.



Maskinonge.

The actual process of spawning is unique and very interesting. When the urge is strongest the fish swim around in pairs, keeping the same relative position and with a precision of movement which gives the impression that they are bound together with invisible ties. When frightened, however, they separate, but soon come together again. During these dual movements they generally remain close to the surface of the water, so close, in fact, that very frequently the back and tail fins show above the surface. The male is nervously alert most of the time. In the act of spawning both fish roll over on their sides, their ventral surfaces close together for a moment. This manoeuvre is performed several times, the eggs and milt being released simultaneously and scattered among the nearby vegetation.

Under favourable spawning and hatching conditions the period of incubation is approximately twelve days.

* * * * *

There is still much to be learned about the life history of the Maskinonge. There is, for example, the mystery of why it is more or less difficult to catch during the warm Summer months, or why it appears to go off its food during this period. Exact knowledge concerning this is still lacking. At this time of the year they are in deep waters, and not actively disposed. September and early October are the best months for Maskinonge, for then they return to the shallows to feed and may be taken quite freely.

* * * * *

Many inexperienced anglers have difficulty in distinguishing between a Maskinonge and a Northern Pike. The simplest differentiation is the colour scheme. The Maskinonge has numerous square or round black spots of different size on the sides of the body on a grayish background with a silvery sheen. The Pike, on the other hand, has many irregular whitish or yellowish bean-shaped spots on the sides, against a bluish or greenish gray background. Briefly, in the Maskinonge the background is light and the markings darker, while in the Pike the background is dark and the markings lighter.

* * * * *

Until two or three years ago the culture of Maskinonge in Ontario beyond the fry stage was not attempted. Natural and economic difficulties made the process too costly. Experiments are now being carried on to raise the young to an advanced fingerling stage and these experiments have been

reasonably successful. Each year it has been possible to increase the numbers so raised and while the total is not large, comparatively speaking, much progress has been made and a great deal of valuable information obtained.

A number of these advanced fingerlings are on display at the Department's exhibit and should prove of interest to the sportsmen of the Province.

* * * * *

Anglers should note that there is a size limit of 24 inches on Maskinonge this year. Observance of this regulation and the practical application of the principles of Conservation will do much to protect this deservedly popular game fish.

Open Seasons

Sportsmen are advised of the following changes in the Migratory Birds Convention Act, 1941, affecting Ontario.

Woodcock Season—

Northern Section—same area as that covered by the early duck season—September 20th, to October 20th.

Southern Section—October 1st, to October 31st.

Rondeau Bay—

In the waters of Rondeau Bay in the County of Kent no water craft shall be used for the chasing or hunting of any wild duck, wild goose, or other wild water fowl provided, however, that this shall not apply to the use of such water craft for the setting of decoys or the retrieving of any wild duck, wild goose or other wild water fowl which may have been legally killed.

The following open seasons under the Game and Fisheries Act have also been prescribed:

Pele Island—

Open season for pheasants October 30th, and 31st, and November 7th, and 8th, between the hours of 8.00 a.m. and 5.00 p.m. Standard Time.

Bag limit 5 per day, cock birds—provided however, that hen birds not exceeding three in number may be included among the ten birds allowed as the possession limit for each two-day period upon payment of the sum of \$1.00 per hen bird to the Game and Fisheries officer at Pelee Island.

Special license fee payable to the authorities of the Township of Pelee \$5.00 for each two-day period, in addition to the regular license required under the Game and Fisheries Act.

Partridge Season—

October 4th, to October 14th, inclusive

November 3rd, to November 12th, inclusive

Bag Limit 5 per day or 25 in all during the two periods.

Ancient and Modern

Modern philosophy is but a recapitulation of the wisdom of the ages dressed up in stream-lined garb to conform to present-day conventions.

In the field of wildlife conservation and the general practices constantly urged for the protection of the resources this fact is patent. Here, for example, are a few paragraphs from a "Treatysse on Fysshing" by Dame Juliana Berner, published in 1475. Despite the quaint diction and spelling, our readers will recognize in them the principles of conservation and sporting ethics.

".... Solomon in his parables sayth that a glad spirit maketh a flourishing age that is a fayre age and a long, and since this is so, I ask this question —which be the means and causes that enduceth a man into a merry spirit? Truly to my best discretion, it is a good sport and honest games in which a man joyeth without any repentance after. . . .

Also that ye breke no many laws in going about your sports; nor open no mens gates but that ye shut them agayn. Also ye shall not use this fore-said crafty sport for covetous sense to the increasing & sparing of your money only, but principally for your solace and to cause the health of your body, and specially of your soule. For wherever ye purpose to go on your sport in fishing, ye will not desire greatly many persons with you which might lette you of your game. Also ye shall not be too ravenous in taking of your said game—as too much at one tyme, which ye may lyghtly do.

If ye do in every point as this present treatysse sheweth you, as when ye have a sufficient mess, ye should covet no more at that time, also ye shall busy yourself to nourish the game in all that ye maye and to destroy all such things as be devourers of it, and all those that done after this rule shall have the blessing of god and Saynt Petyr."



Fisherman's Philosophy

With rod and reel, bait, line and hook
 I hie away to a mountain brook
 What matter if no fish are caught?
 I'll find the thing for which I've sought.
 I'll find the thrill of expectant joy
 That only I knew as a carefree boy,
 And thus I'll while long hours away
 Loath to return at close of day.
 Loath to return to the city's din
 Of crowded streets and busy men
 And if perchance fate decrees my wish
 I'll spend my days where I can fish.

—ORLAND M. PENICK,
Penn. Angler.



Monthly Bulletin

DEPARTMENT OF

GAME AND FISHERIES

September - October
1941

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Guest Editorials

PARADOXICAL as it may seem, natural resources beget wars and natural resources are the liniment with which nations lick their wounds when war is over. The foremost purpose of aggressors is, and always has been, to obtain control over fresh resources which belong to others, preferably developed resources. The principal basis of post-war reconstruction, peculiarly enough, also centres around the development of natural resources.

This present world conflict, by far the worst of its greedy kind, is merely another attempt to re-shuffle the world's resources. Our immediate purpose is to defend the principle that every man must have an equitable share and after victory has been won over the potential pilferers, we shall continue in a peaceful way to strive toward our ultimate aim, which is the equitable and common sense mode of distributing the world's wealth with a maximum of individual freedom. Canada and the United States will strive toward that end hand in hand in the Western Hemisphere, and both are giving full aid to its establishment in the Old World.

The immediate purpose of our natural resources development is the speedy successful prosecution of the war. Our next purpose is to use these resources for post-war readjustment. In this latter purpose is bound up the desire for a peaceful and equitable readjustment of all that ails this old world. We shall need guidance from above, but with that guidance we shall do the job.

Whilst all this is going on, Canada and the United States are becoming better acquainted. Citizens of the United States are welcome to travel the length and breadth of Canada unrestricted, and our inter-relationship is showing the way to a puzzled world.—*Manitoba Bulletin*.

* * * * *

The sportsmen's problem is the most tremendously personal problem confronting national existence today—an existence now under direct challenge incidentally. Any moment now may find us defending with our lives and fortunes those basic resources organic and inorganic—about which and for which we of conservation have for so long been sincerely concerned. Now is the rallying time for the honest shock-troops of conservation to the end that shooting and fishing and the joys of living in an America re-born "shall not perish from the land".—*Nash Buckingham*.

The Angling Season Wanes

As we write the Canadian National Exhibition is entering its final stages after a most successful season. When the big show has fired its last rocket and "frolexland" has ceased to frolic it is a sure sign that Fall is approaching and that the interests of the sportsman will soon swing from fishing to hunting. Yet there is no reason why, for a time at least, those who are really interested in fishing should not continue to enjoy this sport. The real season for muskies is just opening up. It is a known fact that this big bomber of the game fish world is more active and aggressive in September and October than at any time during the rest of the open season. Then he forages around, apparently with renewed vigor, his voracious appetite leading him to strike at plug or other lure with greater zest than he has shown all Summer. Many fairly large specimens have been taken during the season, and it is likely that many more will fall to the enthusiasts before the closing date on October 15th.

For those who enjoy trolling for lake trout the season is just entering one of its best periods. These fish are Fall spawners, and when this phase of their natural life approaches they begin to move from deep to shallow water and are much more readily caught. This movement to shallow water makes it possible in many sections for the plug caster to take them from the shore and, as will be readily understood, landing them by this means is sport par excellence.

There is no close season for lake trout in Lake Nipigon, the Great Lakes, Georgian Bay, Bay of Quinte or St. Lawrence River. Nor is there any close season in the northern section of the Province when the fish are taken by angling. In the inland waters a close season of one month is provided, varying in different sections and covering the period October 4th to November 16th. For full particulars consult the Game Laws.

The bass season extends to October 15th. However, unless you know where to find them when the cool weather sets in don't be disturbed if your catch is light, and above all don't assume that the lake is fished out. When the Summer has waned this species moves from its usual haunts by progressive stages to its Winter environment, and is difficult to locate. That they make their way to deep water is known, but how to find them is not so easy. We know a small lake which appears to have no outlet, and at the only deep spot in the lake one can always get a mess right up to the closing date. It seems to us that they are even scrappier than usual at this time of the year. Perhaps the extremely cold water accounts for this. In any case, if you can locate them be assured of good sport.

Then, of course, the pike and pickerel season extends late enough to satisfy the demands of the most enthusiastic. In fact if you are so inclined, you can keep right on until the joy-bells begin ringing out the old year and ushering in the new. We don't recommend it but it really is quite possible to do so legally.

What we started out to emphasize is that there need be no let up in your fishing anticipations just because Summer is waning and the holiday

spirit has given place to other interests. Drive your car less for unnecessary travel, and save the gasoline for the occasional outing to the favourite fishing spots.

The Lake Sturgeon

Visitors to the Department's exhibit, which is an annual feature of the Canadian National Exhibition, were greatly interested, among other things, in two specimens of sturgeon which were on display. These shark-like fish seemed oddly placed in that extensive aquarium with its many tanks of streamlined gamefish so popular with the angler, and probably for that reason attracted a great deal of attention.

The sturgeon is of no particular interest to anglers from the standpoint of sport because it is seldom taken with rod and line, but it is of considerable commercial importance, its flesh being of excellent nutritive quality. From the roe of the sturgeon that epicurean delicacy known as Caviar is manufactured.

The lake sturgeon is found in greater or lesser numbers in all of the Great Lakes and the larger rivers which flow into them. These include the St. Lawrence and Ottawa Rivers. Though not so plentiful as they once were sturgeon are still taken with some degree of regularity in the Province. According to Dominion reports a total of slightly less than eight thousand pounds of caviar was produced and marketed by Canadian fisheries last year. Of this quantity almost five thousand pounds were produced in Ontario.

The sturgeon grows to a large size, specimens six feet in length and weighing over one hundred pounds were quite common. We are, of course, speaking of the lake sturgeon (*Acipenser rubicundus*) which is the only one found in Ontario. There are other species found in coastal waters which grow very much larger and heavier. The Fisheries News Bulletin reports that recently some British Columbia fishermen were startled to find a 970-pound sturgeon entangled in their gill nets while fishing in the waters of the Fraser River. It measured eleven feet two inches and had to be towed seven miles behind a gas boat before it could be landed.

The lake sturgeon spawns the month of June and there is a close season from June 1st to 30th, except in the Great Lakes and River St. Lawrence. Just in case you should happen to take one while angling, the legal minimum length is forty-two inches, except in the waters of Lake St. Francis and the Ottawa Rivers, where the minimum length is thirty-six inches.

The Lawbreaker Persists

That the vigilance of the game warden never ceases and that sooner or later the lawbreaker who traps illegally, or is associated with those who do, is himself trapped, is shown by a glance at the inventory of pelts offered for sale at the recent sale of confiscated furs. It is a formidable list and includes the following: 354 beaver, 1,842 muskrat, 111 mink, 44 raccoon and a miscellaneous collection of fox, otter, weasel, fisher, squirrel, marten, lynx and skunk.

Obviously this represents a great deal of illegal taking and shows to what extent the public domain would be plundered and national revenue defrauded without proper protection and supervision. It is not contended, of course, that all the lawbreakers are caught, but a large percentage of those who do, ultimately find that "the long arm of the law" is no mere figure of speech, and that penalties for this class of illegal operations are extremely heavy. Not only do they include the confiscation of the pelts, but in addition there is usually a stiff penalty handed out by the magistrate or judge.

It is fair to add, however, that these remarks apply only to the few and that the majority of those who trap are good citizens, and where they have trap lines allocated to them good conservationists. For example, not included in the above list of beaver pelts were 25 others which were forwarded to the Department by individual trappers. These particular beaver were taken by the trappers in traps legally set for other fur-bearers. This frequently happens and the actions of the operator in disposing of them in this way is to be commended.

There are, of course, other classes of lawbreakers whose unsportsman-like conduct is frequently revealed to the public in a big way. The sale of confiscated guns held the other day provides a good example. It was the first gun sale in two years, the most suitable equipment having been previously turned over to the authorities for defense purposes. The equipment consisted of a miscellaneous collection of firearms totalling 445 guns. About fifty per cent or more of the total were .22's. Control of the sale of these guns was provided through the legal requirement that each buyer must first obtain a permit from the City Police, and after purchase must register the firearm with the same authorities.

These guns were a silent reminder that a large number of hunters either are not familiar with the regulations or are content to ignore them. Those who set out to hunt without making themselves familiar with the laws which govern are either very thoughtless or dreadfully careless. You simply cannot play any game without knowing the rules, and in the sport of hunting these are an integral part of our rights of citizenship. Those who know the laws, and most hunters do, and deliberately break them, are unfair to the vast majority of sportsmen who play the game in a sportsman-like way, and deserve no sympathy when penalties are enforced. Wildlife is a national heritage, not a private perquisite, and administration and perpetuation requires the co-operation of all those who would use and enjoy these resources. Such co-operation would result in better hunting and fewer confiscated firearms.

Who Teacheth Us?

"Who teacheth us more than the beasts of the earth, and maketh us wiser than the fowls of heaven?"—Job. 35:11.

The question should probably not be separated from the context although it occupies a verse of its own, but in the form in which it is presented it affords the opportunity for a most interesting study. What have we learned from the beasts of the earth and the fowls of heaven? And how much of

the provisions of Nature have we copied in the development of our civilization? Have we gone back to the laws of the jungle in our relations and dealings with our fellow-man? The present struggle for life, liberty and the pursuit of happiness which free men are waging today provides an excellent field for investigating some of the answers to our questions.

This war, like the previous world war, is being fought with great intensity in three different spheres, namely, on land, on the sea and in the air. This has resulted in a multiplicity of forms of attack and defence, many of which have been copied from the beasts of the earth and the birds of the air.

Perhaps the most important sphere is the air warfare, because to date it has been the most damaging. The evolution of the airplane has been comparatively rapid, and while a great deal of study was given to the movements of birds in flight and much valuable information obtained therefrom no serious attempt has been made to ape the method of propulsion common to bird life. However, the science of flight is practically the same, although the end has been attained by different methods. There are many things that the birds have taught us. Have you noticed the attitude of a bird in flight and how it is streamlined from head to tail? "The fowls of heaven" are good examples and are probably the fastest in flight. Ducks and geese fly with necks stretched and feet tucked underneath or behind to reduce resistance. The fuselage of a modern plane is built with the same idea in mind and the retractive landing gear which disappears into the fuselage when in flight is simply the feet of the plane tucked out of sight.

Dive bombing is a new science in the present war, but duck hawks and other species of birds continually use this dive method for destroying their prey. According to a United States Department of Agriculture Bulletin, duck hawks are the fastest flying birds reported. "One of these hawks," says the Bulletin, "diving on its victim flew 165 to 180 miles an hour when timed with a stop watch. Diving at a flock of ducks, at a velocity of nearly 175 miles an hour, an aviator reports that a hawk, presumably a duck hawk, passed him as though the plane was standing still and struck one of the ducks." Man has copied the dive idea but has surpassed even the duck hawk in speed, the velocity of his descent being almost three times as fast.

Cover, Camouflage and Courage are three features of present day warfare which military strategists emphasize. The value of the first two may well have been borrowed from Nature, the third has been displayed in large measure by all branches of our fighting forces as well as by civilians alike. The art of taking cover is one of the principal defence measures of many birds and mammals, and sportsmen know how effective it is in practice. Sheltered in long grass or heavy foliage these creatures of the wild are protected from the peril of the air and the prying eyes of those who would destroy them. The mechanization of the armed forces has made the taking of cover by an army in the field more difficult, but it is still an important phase of military strategy.

Camouflage, the art of changing the appearance of an object by artificial means to protect vital parts or hide it completely from observation

by plane or otherwise, is largely practised as a war strategy. Here again Nature is the original camouflage artist and we have learned much from her. Birds and beasts are so coloured in many cases as to blend completely with their environment, and so make it extremely hard for their enemies to find them. The snowshoe rabbit is a striking example of this. When Winter comes its fur, which during the rest of the year blends very well with the green of the foliage, turns white to harmonize with the snow of the woods. Deer hunters are aware of the fact that it is frequently quite difficult to notice a deer standing in a thicket. The colour of its hide, the white patches on throat and around the eyes and the antlers resembling branches of trees, all blend effectively with the background. In many birds and animals this natural colour blending is a primary means of protection.



Camouflage—Woodcock on Nest. (Photo Courtesy Dr. W. W. McBain)

Courage. The law of the jungle is ruthless and cruel. It is the law of the survival of the fittest, the doctrine that the weak are the legitimate prey of the strong, and that life is fostered through death. In such an atmosphere and under such conditions, the birds of the air and the beasts of the field must continually be on the alert and display courage of a high order to protect themselves and their young. You probably have seen the

mother partridge risking her own life as she frantically tries to distract the attention of her enemy from nest or young ones; or have witnessed the savage, if futile, attacks of some of the smaller birds on the predators which are their sworn enemies. The same spirit prevails in the animal world, and even the smaller mammals will fight with savage fury in their own defence or in the protection of their young.

The gospel of Nazism is the law of the jungle exemplified in human relationships. It is predicated on the idea that might is right and that those who are physically and materially strong should govern the earth. The courage with which the people of Britain and other free countries have met and are meeting this menace has written a new chapter of imperishable glory in the history of the world. This courage is a natural trait. It has not been acquired from any exterior source, but has been inspired by the same conditions which have called it forth in the realm of Nature.

The Pennsylvania Game News reports the following incident. "During the Meuse-Argonne drive in the World War 'Stumpy' John Sliver, a carrier pigeon, successfully delivered a message despite a bullet-pierced breast and a leg shot away. He has his name on the roll of the Eleventh Signal Corps (U.S.A.) and was officially memorialized by the War Department and so recorded in the Congressional Record." Perhaps, after all, we can learn something of loyalty and self-sacrifice from "the fowls of heaven".

The First Dive Bombers

Men are not the only creatures to make devastating use of aerial attack these days. From the Lowe Inlet area of British Columbia come reports to the Dominion Department of Fisheries of attacks by eagles upon salmon making their way up the streams to the spawning beds. Indeed, in some of the small streams which carry seaward the waters of South Lake, reports one of the department's inspectors, the big birds have been destroying most of the Sockeye salmon. It is not the first time, of course, that eagles have preyed upon salmon—they've probably been doing that ever since there were eagles and ever since there were salmon—but this year, in the Lowe Inlet area at least, they have, perhaps, been specially active. Keen-eyed, they come swooping down in swift aerial dives, and a good many of the salmon in the small streams find the odds against them in their efforts to escape.

Bears and wolves have long proven all too adept at fishing for the good of the salmon stocks, scooping up the fish from the shallows, as the salmon ascend to the various spawning streams. Beavers, too, have given the salmon trouble, not by gobbling them up, but by the construction of dams which block the routes to spawning beds. And with eagles on the hunt there is another hazard in the salmon's life.

Of course, these animal predators, such as bears and eagles, have rights of their own in the scheme of the survival of the fittest. The salmon run, however, source of a great supply of nutritious and economical food for mankind, and basis of one of Canada's greatest industries, must be protected. The Dominion's fisheries regulations are so designed as to permit

an adequate escapement of salmon for reproduction purposes. The natural enemies are not so considerate. So it is that in addition to their other duties, the fishery officers sometimes find it necessary to take repressive steps against the salmon's furred and feathered foes.

—*Fisheries News Bulletin.*

The Alewife

By H. H. MacKay

The alewife belongs to the family Clupeidae, which includes a number of important species, some of which are wholly marine, for example, the herrings, the pilchards and the menhaden; while others, such as the shad, live in the sea but ascend rivers to spawn.

The alewife is a small fish, body—deep and much compressed; colour—bluish above, shading into silvery on the sides and ventral surface. There is an indefinite blackish or bluish spot behind the gill cover. The rows of scales on the sides are marked with longitudinal black stripes which become fainter below the lateral line. The largest specimen reported for Lake Ontario was $7\frac{1}{2}$ inches long, and it is stated on good authority that the alewife does not grow as large in fresh water as in salt water.

General Distribution

The alewife is a common marine fish on the Atlantic coast, averaging about 10 inches in length. For the purpose of spawning it ascends the coastal rivers.

It is common in Lake Ontario, the St. Lawrence River, and in a number of inland lakes in western New York, but otherwise it is very rare or absent in the Great Lakes basin. In 1931, a single specimen was taken in the eastern end of Lake Erie off Nanticoke (Dymond, 1932). There are two records for Lake Huron. In 1933 the species was first reported when several specimens were taken in approximately 70 fathoms of water about 12 miles east of Outer Duck Island, in the Province of Ontario (MacKay, 1934). A specimen $8\frac{1}{2}$ inches long was taken on April 13, 1935, in a gang of 2 9/16 inch gill nets in Lake Huron in 70 fathoms of water about 40 miles from Rogers City, Michigan, at a point about midway on a line drawn between Thunder Bay Island Light and Duck Island Light.

The occurrence in Lake Erie is not unexpected, since fish now have access from Lake Ontario through the Welland Canal, but isolated occurrences, for example, in the northern end of Lake Huron are more difficult to explain. There is a remote possibility that the fish may have been planted accidentally or otherwise in the egg, fry or older stage. Reaching Lake Huron through the Detroit River is improbable, since alewives have not been reported in that section from the western end of Lake Erie to the northern end of Lake Huron. Entrance through the Georgian Bay is more likely, since there is a possibility of migration from Lake Ontario through the Trent Canal and its connecting waters to Georgian Bay, and thence to Lake Huron.

The Ontario Department of Game and Fisheries has records of specimens from Otty Lake, Lanark county, North Burgess and North Elmsley

townships. Toner (1934) noted its occurrence in a number of lakes of the Rideau and Gananoque systems, and in June, 1934, 1935 and 1936, he reported that alewives spawned below the falls in the town of Gananoque. Additional records are the Gananoque River, Gananoque Lake, South Lake, Charleston Lake and Wiltse Creek.

Pritchard (1929) made a comprehensive study of the life history of the alewife in Lake Ontario, and a great deal of the information contained herein is based on his observations.

The Source of the Lake Ontario Alewife

There is some doubt as to when this species first appeared in Lake Ontario. Wright (1891) says that it was "introduced into Lake Ontario since 1873 and is now very abundant". A number of writers state that the alewife was introduced through an error when the intention was to plant shad. According to fishermen at Bronte it was very common in the late 70's and in the 80's, because of the death of large numbers of them, they were used by the wagon-load as fertilizer. The cause of the mortality which occurs periodically in Lake Ontario is unknown.

Habitat

In Lake Ontario the alewife has been taken in all depths from shallow water to a depth of 300 feet, but it appears to be more common inshore. It is believed to be somewhat pelagic. Specimens recorded for Lake Huron and described in one of the preceding paragraphs, under general distribution, were taken at 420 feet.

Rate of Growth

The alewife in Lake Ontario grows rapidly at first, attaining in one year a length over half of that reached at the end of the fifth year. After the first year the rate of increase in length falls off. The difference in environment between the Bay of Quinte and the open lake does not noticeably affect the rate of increase in length or weight. Males grow more slowly than females. The smallest ripe male taken was $3\frac{3}{8}$ inches long and the smallest ripe female $4\frac{5}{8}$ inches. All fish over $5\frac{1}{4}$ inches in length are sexually mature.

Spawning Habits and Hatching

The time of spawning varies with the temperature. In a favourable season the fish run in schools into shallow water to spawn in late May or early June. In the western end of Lake Ontario, spawning occurs in about eight feet of water on sandy beaches, sparsely covered with vegetation. In the Bay of Quinte, spawning occurs in shallow bays where the bottom is sandy or slightly muddy. If the season is cool the run may be irregular and spawning may run into August. The spawning run is constituted chiefly of five and six year old fish. At first the sexes are about equal in numbers, but towards the close of the run the number of males greatly exceeds the females. The eggs hatch in less than a month.

Feeding Habits

The alewife feeds chiefly on animal plankton, such as small crustaceans.

When the fish are caught in shallow water they are often found feeding on insects, and this is true whether the fish are taken on exposed beaches or protected bays, but it should be pointed out that animal plankton, and not insects, forms the principal food. The large fish eat more insects and large crustaceans.

Enemies

Lake trout and ling feed heavily on alewives in all parts of the lake. The eel in the Bay of Quinte preys upon them to some extent and it is probable that further studies would reveal that this is considerable.

Economic Importance

The alewife is an important item in the diet of lake trout and ling, and competes in no serious way with other species. Indirectly, by supplying food for lake trout and ling, it protects the ciscoes, which are usually eaten as a substitute.

The alewife is edible, but being small and bony is not much appreciated as food for human consumption.

The Ruffed Grouse

Sportsmen have already been advised of the open seasons on Ruffed Grouse—Partridge; indeed, ere this publication reaches its readers the first of these open seasons will be but a memory. No doubt the experienced hunters were reasonably successful in obtaining a few birds because reports from all over the Province are to the effect that they are very plentiful. From personal observation during a recent trip in Northern Ontario, we have no hesitation in confirming these reports. Not once but many times we were forced to bring our car to a complete stop to avoid hitting birds on the highway, and in the country roads they were to be seen everywhere. Unquestionably this is a peak year. We have suggested that the experienced hunter probably has had some measure of success because in the southern section of the Province particularly, the partridge is cunning, fast on the wing and hard to shoot, and the novice will find it very elusive. When flushed it rises with a disconcerting rush and noise enough to startle the most experienced, and if the hunter is not fast in his movements he will probably find that his quarry is out of sight behind some nearby tree before he has had time to sight his gun. The sudden zoom which it makes when rising from the ground, its speed in flight and instinct for protecting itself behind suitable cover make its taking on the wing a real sporting proposition.

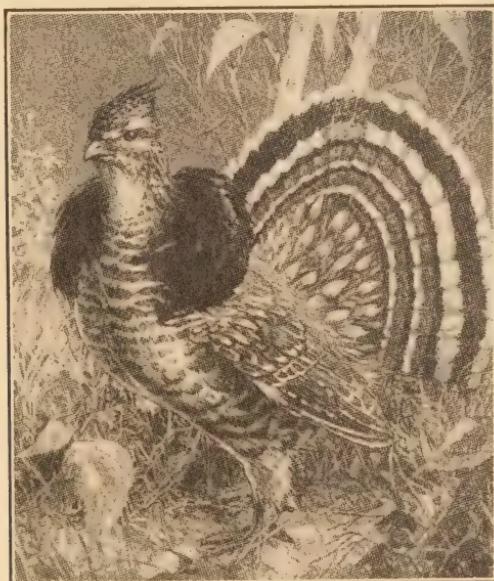
In the northern areas the partridge appears to be less active and does not flush with the same speed as do the birds farther south. As a matter of fact it will frequently merely fly up the nearest tree and perch there, or walk away from the danger zone. As a consequence it probably is taken in larger numbers. This difference in speed may be due to the environmental conditions which prevail. Association with man has doubtless taught the southern birds to be wary.

Hunters are fairly familiar with the phenomenon, now well established, that the abundance or scarcity which appears to be characteristic of the

life history of the ruffed grouse follows a regular cycle of seven years. What actually causes this fluctuation in the partridge population is not altogether clear, although various explanations, the result of research, have been forthcoming. In a general way, it is believed to be associated with a disease which affects other small game in a like manner.

If, as has been suggested, this is a peak year, probably the seventh in the cycle, the next three years will show a drop in numbers which will be quite pronounced at the end of the third year. From then on the chart of development will show an upward swing again until the peak of abundance is once more reached. Nature's plan for the maintenance of a proper balance among her creatures is complicated and sometimes difficult to understand, and the phenomenon of the rise and fall of the partridge population is apparently part of her plan for maintaining an equitable adjustment in the realm of wild life.

The drumming of the partridge is a characteristic sound during the mating season. The male bird, who is quite an actor, attracts the female by putting on a show of his own. Mounted on a fallen log or flat rock in a secluded part of the woods, he assumes a dignified attitude, expands his tail in a fan-shaped manner, erects the ruff of feathers on his neck and



Ruffed Grouse.

struts up and down with the assurance of a peacock on parade. At intervals he appears to inflate his whole body, and bringing his wings forward, beats the air with them in an ever-increasing acceleration which produces a sound closely resembling the reverberations of distant thunder. Motion

pictures taken of this action show the beating of the wings to be so fast as to be almost invisible.

For her nest the female chooses a quiet spot, usually close to a log or other convenient shelter, and lays from eight to twelve eggs. In about four weeks the young are born and almost immediately after hatching are ready to follow their mother in search of food. The mother is devoted to her young and frequently displays a great deal of courage in defending them. The chicks are quick to learn and display a keen instinct for self-preservation. When an enemy approaches the mother bird assumes the post of danger and exerts all her wiles to distract attention from her brood. In a flash the young have disappeared from sight while she continues to lead the aggressor away from the immediate vicinity. When the danger is past the mother utters a few clucks and from all directions the young make their appearance again and the family circle is once more complete.

The determination of sex in ruffed grouse in the field is difficult even for the most experienced sportsman. As a matter of fact positive identification under natural conditions is only possible after dissection.

As we stated at the beginning, this should be an excellent season for upland game hunters. To take grouse on the wing requires fast, accurate marksmanship and the sportsman who obtains his birds thus will have an excellent test for his skill.

Some Hints for the Hunting Tyro

In the extreme northern section of the Province the deer season opened September 15th. By progressive stages the various other districts will have their seasons, the last of these opening November 3rd. An army of sportsmen—international in its scope this year because of the anticipated large influx of Americans, the many allied members of the active forces who are resident for the time being in Canada and may be expected to participate—will take advantage of these open seasons. It is an outing that the old-timer would not miss and to which the newcomer to the sport looks forward with eager anticipation. Apart from the thrill of the hunt, camp life and the friendly associations of the camp contribute much to the pleasure of the outing. The tyro, however, must not assume that he knows it all because his companions of more experience are genial and perhaps uncritical. There are many unwritten rules for safety, the harmony of the camp and the conservation of the resources with which he would do well to familiarize himself.

In the first place, if the party is a self-contained one, running its own camp, cooking its own food, etc., the newcomer must be careful to assume his share of the camp duties, in fact, if he wants to make a good impression he should be disposed to do just a little more than his share by way of initiation.

Like all good soldiers he must obey the orders of the camp captain. These will not be arbitrary but will be based on experience and in the best interest of the camp and the safety and pleasure of the members.

Speaking of obedience reminds us of our first deer. We were somewhat green and inexperienced but were very keen on getting a deer. Every morning for four or five days we were placed on the same runway with instructions to remain there and we would be picked up by the gang at the end of the day. Each day there was excitement of some kind, false alarms and so forth, but no deer. On the day in question we had been watching and waiting till late afternoon without any particular diversion when it began to rain. Cold and wet, we toyed for a long time with the idea of going home, arguing that the weather conditions were sufficient excuse for leaving our post. Finally we started for home, but our conscience bothered us, for we reasoned that when the captain returned to pick us up and found the runway deserted he might be worried as to our safety, knowing that we were inexperienced in the game. After going about a quarter of a mile we turned around and went back to our station. We had not been there more than a few minutes when a fine big buck came trotting over a little hill a short distance from where we were standing. It was an easy shot, and we got our deer, but almost let ourself in for a severe castigation. When the gang arrived shortly afterwards the captain declared he saw this buck running in our direction and expected us to get it. What he didn't know at the time was that we nearly did not!

It is not always easy to pick your shot when firing at a swiftly moving deer, but the hunter should at all times endeavour to hit a vital spot. This is of some importance in preventing loss, for a deer not vitally wounded is hard to track, yet may ultimately die of its wounds and be lost to the camp and the herd. The best and biggest target to aim for is the heart. This area also contains the lungs and important blood vessels. In a head-on shot it is located in the base of the throat; in the broadside shot just above the foreleg and a little back of the base of the throat. There are other vital parts, such as the spine, but in each case the shot must be well placed to be effective and the targets are not so well defined.

The rules for safety in the bush and in the handling of firearms are of paramount importance, and the old-timers, as well as the tyro, would do well to have them continually in mind. Most of them are the result of tragic experiences and for that reason they are vital to safe hunting.

One written law is that loaded firearms must not be carried in a car. It is not sufficient to empty the breech, the magazine must also be empty.

On starting out for the hunt from camp or elsewhere never load your gun until it is perfectly safe to do so. If there are companions around be sure the barrel is pointed upwards and away from them. Always empty the gun before returning to camp.

Never drag a gun towards you by the barrel. The trigger is a finely balanced piece of mechanism and even a twig may set it off. Keep the safety catch on at all times when carrying a gun.

Of very great importance is the admonition, never shoot until you are absolutely sure what you are shooting at. Better to lose the game than take a chance on injuring a human being.

Never stand a gun against a tree or any other object from which it may

slip. Lay it down carefully, preferably after having unloaded it or opened the breech.

Be careful the barrel does not become plugged with snow or mud. Explosions from this cause are extremely dangerous.

For the safety of yourself and others, the ethics of sportsmanship demand that you pay attention to these rules. If everyone would do so hunting would be safer and saner. Let us make this an accident-free season and there will be no regrets.

The Mallard

Since September 15th, hunters have been daily scanning the heavens during the early hours of the morning from hastily constructed blinds, for the first morning flight of ducks. This particular sport requires more than average enthusiasm, for when others are enjoying the final hours of normal rest the hardy individuals who indulge are shivering in cramped quarters waiting for a chance to demonstrate their skill against the wily mallard or other equally crafty water-fowl.

The mallard is probably our most common duck, as well as being one of the most popular. There are several reasons for this popularity. It is large in size, is excellent table food, and knows all the tricks of the trade when it comes to eluding the sportsman. It is a delight to watch it taking off at the first sign of danger. With a single bound it springs out of the water straight up into the air, and after it has gained sufficient altitude to clear surrounding obstructions flies off in a straight course and at great speed.

The mallard is one of the hardiest of our water-fowl and apparently enjoys the rigors of our climate just as much, or perhaps more, than the balmy air of the south. The largest proportion of our local ducks are mallards, and it undoubtedly is the origin of the common domestic duck. In the northern migratory flight it is one of the leaders and earliest arrivals. Almost before the ice has broken up on the streams, ponds and sloughs it is making its way by progressive stages to the breeding grounds. This migratory flight from the southern states to its northern home occupies about three or four weeks. As already mentioned, the mallard is the most common of our local ducks and makes its home in any suitable locality, nesting on the ground near water. It will be found with its young in very many of our lakes, ponds and rivers. The domestic worries of the mallard are left entirely to the female as the drake assumes few family responsibilities.

The southern migration takes place in September and during October and by that time the young are able to accompany the adult birds on the long flight.

The Loon Stages a Comedy Act

During the early Summer we were canoeing across a lake in northern Ontario in the late afternoon. A loon and two young ones were lazily disporting themselves on the placid waters. As we approached, the mother bird signalled sharply to her young in that almost human cry so character-

istic of the loon. Immediately the youngsters disappeared and reappeared shortly afterwards for a few moments at widely separated points. The loon spoke again and the little ones continued their hasty flight, submerging and reappearing for an instant at ever-increasing distances from the danger zone.

In the meantime the mother bird was staging an act of her own. In order to attract attention to herself and away from her young she fluttered on the surface of the water, then made a short dive, and when she again appeared she almost rose right out of the water and sat on her tail, flapping her outstretched wings to make sure that we would see her.

It was excellent comedy, and we entered into the spirit of the act. Slyly she led us in the opposite direction from that taken by her two young ones, and so long as we continued to follow her was comparatively calm. Just as soon as we altered our course and made as if to pursue the young, the tail-sitting, wing-flapping acrobatics were renewed. She was leading us in the general direction in which we were going so we calmed her fears to some extent by keeping on our way. For almost half a mile she led us up the lake, then we broke off and turned in to our portage. Her relief when we did so was doubtless great, and we can well imagine with what joy she scurried down the lake again to rejoin her family.

Just a Dog

Appearing first in the February issue of *Field and Stream*, an Open Letter by Corey Ford concerning the shooting of his favourite setter by a careless hunter has been copied in many of the Conservation publications as a pre-season warning to other hunters. It is so full of poignant appeal, so feelingly written and so pathetically true as regards the reaction which follows one moment of careless action with a gun that we print it here in part for the same reason. (*Editor*)

"This week-end, Mr. Coggins, you drove up into New Hampshire with some friends to go deer hunting. You went hunting on my property here in Freedom. You didn't ask my permission; but that was all right. I let people hunt on my land. Only, while you were hunting you shot and killed my bird dog.

Oh, it was an accident, of course. You said so yourself. You said that you saw a flick of something in the bushes, and you shot it. All you saw was the flash of something moving, and you brought up your rifle and fired. It might have been another hunter. It might have been a child running through the woods. As it turned out, it was just a dog.

Just a dog, Mr. Coggins. Just a little English setter I have hunted with for quite a few years. Just a little female setter who was very proud and staunch on point, and who always held her head high, and whose eyes had the brown of October in them. We had hunted a lot of alder thickets and apple orchards together, the little setter and I. She knew me and I knew her, and we liked to hunt together. We had hunted woodcock together this Fall, and grouse, and in another week we were planning to go down to Carolina together and look for quail. But yesterday morning she ran

down in the fields in front of my house, and you saw a flick in the bushes, and you shot her. . . .

I know you didn't mean it, Mr. Coggins. You felt very sorry afterward. You told me that it really spoiled your deer hunting the rest of the day. It spoiled my bird hunting the rest of a lifetime.

At least, I hope one thing, Mr. Coggins. That is why I am writing you. I hope that you will remember how she looked. I hope that the next time you raise a rifle to your shoulder you will see her over the sights, dragging herself toward you across the field, with blood running from her mouth and down her white chest. I hope you will see her eyes.

I hope you will always see her eyes, Mr. Coggins, whenever there is a flick in the bushes and you bring your rifle to your shoulder before you know what is there."

Voices of the Wild

These are the sounds that make the pulse of those
who love the out of doors

Step up its tempo, beat a faster rhythm,
And seem to prod our memory with the things
 all dim and half forgot
That once we knew.

The startled snort of white-tailed deer; the crash
 of antlers as two bucks
Decide the age-old problem, Nature's way;
The trumpet call that winging geese fling downward
 from the heights to us,
The urge to follow them away, away.

The campfire's pleasant crackling; its warmth
 and cheery fellowship
As smoke and sparks float upwards through the trees;
The melancholy call of crows complaining
 from their leafless snag
That snow is covering the fallen leaves.

The splash of madly feeding trout at evening when
 the first shad hatch
Is ticking all the waters still and clear;
The hooting of the barred owl, the shrill squeal
 of the snowshoe hare
Their hackle-raising tale of death and fear.

These are the sounds that grope among the great
 primeval springs of life
And still the memories of that distant past
When man first ceased to walk upon his knuckle-
 bones and stood erect,
Then raised his head, to be a man at last.

—A. G. SHIMMEL, *Pennsylvania Angler*.



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

November - December
1941

HON. H. C. NIXON
Minister
D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Editorial

THE stream of time, like Old Man River "keeps on rolling along" on its endless journey into Eternity. In a few days its progress will be measured by the end of the calendar year. Since we last recorded its advance the affairs of men and nations have become more hopelessly involved, and the world is tottering under the blows of what has been described as "total warfare", which has been interpreted as meaning the indiscriminate destruction of life and property.

The message of "Peace on earth and goodwill to men" which is the spirit of the Christmas season sounds "like a voice crying in the wilderness"; a whisper completely drowned out by the howling and snarling of ravenous beasts seeking whom they may devour. It is sad to think that during the holiday season men, women and children who should be enjoying the happiness of home life and the festivities which are always associated with the occasion, will be grovelling under the yoke of the oppressor and in peril of their lives by day and night.

It is a dark and dismal picture, and yet many rays of sunshine have pierced the gloom. For us there has been the undying spirit of youth as represented by those gladiators of the air, who, by great daring and almost super-human courage have wrested the initiative from the enemy and are slated to play an important part in his final destruction. The constant vigilance of the Navy in keeping the sea lanes open and smiting the enemy at every opportunity, and the heroism of the men of the Merchant Marine, who brave the multitudinous perils created by man and accentuated by Nature, in order that supplies of all kinds will flow in an uninterrupted stream, are shining examples of loyalty and self-sacrifice. Then there is the glorious spirit of the army, as exemplified at Tobruk and a hundred other places; the unselfish devotion of the men and women of the civilian services, whose valor has written a new chapter in Imperial history; and the unshaken morale of the people of Britain even when the clouds were darkest.

We approach the end of the year lacking knowledge of what the future may hold, but confident that if we are true to ourselves and our ideals victory is assured. Let us keep our courage undaunted and our morale unimpaired and we shall eventually emerge into the sunshine of a victorious and happy New Year.

The Deer Situation

Deer hunters returning from the annual pilgrimage into the northern woods are familiar with the check which is carried out by officers of the Department at a strategic point on the highway, for the purpose of seeing that the regulations have been observed. It is a protective measure of some importance, for the fact that it is carried out has a restraining influence upon those who might be tempted to abuse their privilege. It does not cover all the hunters, because not all of them return to their homes by this route, but it effectively reaches several thousands of those who go deer hunting.

This year the patrol checked the bag of some 4,264 hunters and discovered they were in possession of the following game: Deer 3,001; moose 5; bear 48; and 1 wolf. In addition most of the hunters had several partridge, for which there was also an open season. These figures show that seventy per cent of those examined had obtained their quota of deer.

The high percentage of successful hunters would seem to show that the deer herd has not suffered any undue impairment in numbers through the intensive hunting to which it has been subjected for the past quarter of a century. Indeed, we recall that we obtained our first deer about 25 years ago and it was the only one that fell to the guns of a party of six, and in a district which today affords good hunting.

The deer, of course, are not permanent residents of any particular district, but move around as the dictates of Nature demand. Nevertheless, many hunters have been going into the same grounds annually for several decades and returning well satisfied with their bag. Sometimes they have to cover more territory than usual and hunt more intensively, but persistence seldom leaves them without reward.

In those parts of the Province which for many years have been closed to deer hunting, the increase in the deer population is a subject of public comment. This item from a recent daily newspaper is typical of the general situation. "Big herds of deer roam the northern half of King Township, less than thirty miles from Toronto city limits, but they are fully protected by game laws. Up until four or five years ago it was a miracle if anyone happened to see a deer in the township. As many as thirty-two have been seen in one bunch."

The Tourist Business

In the north-western section of the Province a controversy has arisen over the heavy taking of big game, particularly moose, by non-resident hunters. A large number of camp owners and sportsmen in that district appear to be of the opinion that more restrictive measures with regard to the taking of moose will have to be enacted. The following extracts from an article in a recent issue of the Kenora Miner and News, written by a responsible camp owner, presents a viewpoint which is typical of much of the prevailing sentiment.

"One of man's greatest responsibilities is to look after dumb animals. This has been realized since the beginning of Time. As a matter of fact, I

have only to refer you to the time of the Great Flood, when one man and a score of animals were well taken care of in the well-known Ark.

Mother Nature writes the rules, and we can't beat her code of ethics.

Here in the Kenora district, it seems the situation is just reversing itself. Are we disregarding the lesson of Mother Nature by the slaughter of fish and game, instead of protecting it, which protection was so important in the beginning?

This controversy about the killing of our moose, the taking of our fish, makes one stop and consider. And it is well that we should stop and consider so important a subject because, after all, who owns the fish and game?

In the first analysis, we find the people own the fish and game, and to the representative of the people, the government, is entrusted the important task of proper protection.

Just such a job was given our friend Noah by Mother Nature in the first stages of what was hoped to be proper civilization.

But our government, being our servant, so to speak, acts on instructions from the boss, which in this case is we the people.

Now I don't think we, the people, wish to infer that our intelligence is superior to the intelligence of Mother Nature. Therefore, perhaps we should review the importance of conserving our fish and game while we still have it.

In the first place, fish and game were put on earth for a purpose and that purpose was for the benefit of the people. Not for one or two of us, not to any one group or for any one association.

Therefore, we are to make the best of it as a whole.

Here in the Kenora district it so happens that fish and game and our great outdoors produce a leading revenue. People from across the border are flocking here by the thousands. They wish to see all this fish and game and our great country.

Some day there will be nothing left to see. What then?

It is up to us to see that there will always be something to see, and just as long as we protect this great attraction will this attraction thank us in the way of tourist prosperity, which gives us one of the leading industries of our nation.

There are three classes of tourists:

1. Sportsmen who come here to catch fish and shoot game. They obey our laws and respect our opinions. They are not game hogs and realize they must put back to take out.

2. The nature-lovers. They come to take pictures of wild life. They enjoy our scenery and are thankful because our country has so much they might have had, and they caution us to keep it.

3. The game hog. He slaughters viciously and for every dollar he spends he wants his ounce of flesh, whether it has scales, hair or feathers.

We can't hope to furnish fish and game for all three of these classes. We haven't enough fish and game. And, as a whole, the three classes threaten to scuttle the Ark.

It would seem then, the answer is for the government to step in with more direct control in this industry, because the product (fish and game) belongs to the people.

The tourist camps are indirectly sellers of fish and game, and inasmuch as they are selling a product they haven't manufactured and do not really own, it seems that the servant of the people should see to it that the tourist camp owners get the proper price and observe with care the perpetuation of the product for the people.

We can get five cents a fish or we can get ten dollars per fish. We can get ten dollars a pound for wild meat or we can give it away.

Some say to put a good price on our resources is class legislation. They argue that we are discriminating against the underprivileged.

It seems a reasonable answer to say the higher the price the better for our own poor people. It means good wages for guides, good wages for hundreds of camp workers, thousands of dollars for the grocer, the butcher, the material man and all of their combined employees. It means prosperity in other words, just as Mother Nature intended it.

As a parallel, we might say we should sell our gold for five cents an ounce to the general public instead of over thirty dollars an ounce.

Just because fish and game are not yellow, that doesn't mean they are not as valuable as gold. We can exhaust our supply of gold and good old Mother Nature, if we play her game, will bring it right back to us in tourist dollars, providing we never, never exhaust our supply of tourist attractions.

When one takes gold out of the ground it never goes back. You can't replace it. It is gone. But when one takes fish out he can put them back and they will multiply. Fish can be re-planted and game can be restored and everlasting go on and on.

Therefore, if we must give something away, it would be better to give the gold and keep the fish and game.

Recent articles appearing in the *Kenora Miner and News* (and many other newspapers) are merely sounding the warning trumpet, and it is up to the people to put their ear to the ground and listen carefully, for all these editorials, these meetings of various organizations, and the entailing controversies about the conservation of fish and game, show us the smoke clouds on the horizon.

I contend that the real sportsmen of the United States are not going to take offence at any of our articles or laws pertaining to the conservation of game and fish. They would be the first to uphold and approve of this. If there is a class who would take offence, then that is the class we don't want anyway.

The laws are made by the "locals" for their own protection, and real sportsmen realize this and respect them.

So, too, should the tourist camp owner—whether he be local or alien—be willing to abide by the laws which are made by the people and to co-operate with the decisions of the majority. He should feel, too, that it is a privilege rather than a favour, to be able to take the money which is made from the product of the people and spend it on advertising and good will which will bring prosperity to all."

We have reproduced the above because we feel that it represents a very reasonable and far-seeing attitude on the part of the writer, and not neces-

sarily because we endorse the means suggested to attain the desired end.

Let us examine the situation further:

The wildlife of the Province is a valuable natural resource and, with the many other outdoor attractions which Ontario has to offer, forms a base around which has been built up one of the most important of our industries—The Tourist Industry. This business is in direct opposition to isolationism. It represents the free intercourse, within reasonable limitations, of free peoples. It is an important part of our national economy and provides direct income and employment for thousands of people, while indirectly it benefits every man, woman and child in the Province.

For a quarter of a century or more the tourist business has been steadily increasing, until it is now among the leaders. This happy state of affairs has been brought about by judicious advertising; the opening up of the country through the construction of good highways; the provision of transportation facilities and the development of those outdoor attractions which this country has in abundance. Tourist camps and summer resorts have sprung up all over the Province wherever land and water presented a suitable environment, and these have prospered with increasing business.

In point of numbers and revenue produced this has been a banner year for the tourist business, and yet this very fact is creating a problem of interest to sportsmen, and those who cater to the tourist. It concerns the ability of our fish and game to stand up under the heavy drain upon them, and the extent to which further restrictions should apply in order to prevent waste and fully conserve these valuable resources. Fish and game, as has been pointed out, are renewable assets, and their perpetuation and development is therefore a matter of control. We have been richly blessed in the comparative abundance of our resources, and—having in mind the tragedy which befell wildlife throughout a goodly portion of the United States, because of waste and unrestricted use—must see to it that we maintain our heritage intact.

Intensive efforts are being made by the Department to meet the heavy demands on our game fish by extensive annual re-stocking and suitable control measures, and to maintain the supply of game through natural and artificial development plus regulation and enforcement.

Obviously it is good business to encourage the tourist traffic, but there is no gainsaying the fact that this traffic is making heavy demands on our resources and we must therefore be careful to avoid anything savouring of prodigality lest we impair our capital stock. The Department is in close touch with the situation and will take whatever steps may be necessary to forestall any depletion through too extravagant use.

Bears Plentiful

Bears appear to be very numerous throughout the Province this year. Reports reaching the Department from its field officers and through the press make it clear that in widely scattered districts many more than usual have been observed this season. A glance at the headlines shows that the newspapers have been making the most of the situation and the new items are frequently dramatic in the details offered the public.

A press report from the Temiskaming district states that one party of farmers, organized to protect their livestock, had killed eighteen bears, and it was estimated that over one hundred had been shot during the summer. There are reports from Victoria County mentioning that seven bears were shot on one lot, and also remarking "These animals are more plentiful this year than they have been for the past quarter of a century". From the Parry Sound district comes a news item to the effect that children going to school had seen a bear and as a consequence there was a mild furore among parents. This report also adds that "bears are plentiful in these parts and a common sight along the highways". The Lake of the Woods district also makes its contribution with a rather dramatic story that bears are so numerous and ferocious that hunters report difficulty in avoiding them, and that a party of eight had killed eight all in one area. Returning from a hunt in the Bruce Peninsula a party of local nimrods not only brought back their quota of deer but also added four bears and a wolf to the bag.

It appears from these reports that the bears have been roaming further afield this year. Owing to weather conditions berries were not so abundant as usual, and as these form one of the principal items in the bruin diet it is probable that their search for food has resulted in more extensive wanderings.

Ere this, most of the bears will have gone into hibernation for the winter, so that for the time being the problem no longer exists. When the spring break-up occurs, however, they will once more emerge, accompanied by the cubs born during the time they were denned up. This is the best season of the year to hunt them in the north country because then they move around freely and the pelts are prime.



Black Bear

The Weasel Family

The trapping season for the weasel family opened November 1st and extends to February 28th. During that period thousands of trappers will be actively engaged pitting their nature knowledge and skill on the trap line, against the natural cunning of these small, but important fur-bearers. There are seven members of the weasel family contributing to the fur resources of the Province, namely, the weasel, mink, fisher, marten, otter, wolverine and skunk.

The Weasel

The weasel is "a terror for its size". It is a fierce, active hunter with vicious instincts, and is particularly fond of the warm blood of its victims. Many a chicken coop has been badly denuded in one night through the depredations of this ferocious little blood-sucker. We recall one day on the bird farm when a mild epidemic of slaughter among our young pheasants caused us a great deal of consternation. Making a tour of inspection about two hours after the birds had been turned out for the day we discovered in one of the pens about half a dozen birds which had been partly dragged under the brooder house. Examination disclosed that their throats had been chewed and the blood drained. Obviously the work of a weasel. Across the yard another pen had also been visited by the marauder with equally disastrous results. Needless to say precautionary measures were at once taken and the attackers routed.

The weasel is a small, slender little animal with short legs. In summer it is a dark brown above and whitish beneath. In winter its coat changes to white except for a black tip on its tail. On the market its fur is known as Ermine.

The Mink

In its general appearance the mink resembles the weasel, but is much larger, has no white on the body or black tip on its tail, and does not turn white in winter. It is semi-aquatic, and its partly webbed feet enable it to swim freely and fast. As fish, frogs and crayfish form part of its diet it is seldom found far from stream or pond. The remainder of its food consists of small mammals and birds. Compared with the weasel the mink is pacifist. It "kills to live" rather than "lives to kill" as does its smaller cousin. Mink fur is of good texture and popular with "milady".

A large number of mink farms have sprung up throughout the Province, and from the domestic stock so raised excellent furs are being produced.

The Fisher

For its size—which is about that of a fox two-thirds grown—the fisher is reputed to be the swiftest and most deadly of the flesh-eating mammals. It is an excellent hunter and can skim the tree-tops, swim the creeks, or cover the ground with equal agility. As an example of its dexterity it is noted that it can catch squirrels and marten in the tree tops, a feat demanding lightning movement. On the ground it is an active hunter and takes a variety of mammals, including the cunning, swift-moving fox and the sluggish but otherwise well-protected porcupine.

In the latter case it is stated that by skilful approach and effective manipulation it turns the porcupine over and attacks the vulnerable underside.

In general appearance the fisher is more like a fox than the species to which it belongs. It has a large head and bushy tail and is larger than the two described above. The fur is usually brownish black in colour with a black area along the back.

The Marten

The marten spends most of its life in the evergreen trees deep in the forest, and is a skilled climber. It is agile enough to overtake and destroy squirrels in the trees and yet not dexterous enough to elude the fisher, which is one of its chief enemies. It preys upon birds, small mammals, fish, frogs and reptiles.

The general colouration of the marten is a rich brown, lighter than that of the fisher, and, unlike the latter, its legs are brown, not black. The fur is soft and velvety and is quite valuable.

The Otter

The otter is the most aquatic member of the weasel family, and spends most of its life near lake or stream. It is well equipped by nature for its environment, having a dense, oily fur, webbed feet, and a long muscular tail. It lives mostly on fish and crayfish, but when the opportunity presents itself will take mammals or birds. Perhaps because it lives so much in and about the water it has few natural enemies.

The fur of the otter is short and thick, dusky brown in colour and extremely serviceable when made up. It has the characteristic short legs of the weasel, but its body is large and heavy and tail long.

The Wolverine

Only two wolverine are reported to have been trapped during the 1940 season, which would seem to imply that it is quite scarce. As a matter of fact it is seldom found now except in the extreme northern section of the Province. It is easily the largest of the weasel family and has a reputation for its strength and cunning. It is not built for climbing and is too clumsy for speed, but what it lacks in agility it makes up in strength and daring. Trappers have reported it as being of nuisance value because it seems to take particular delight in following the lines of traps, destroying the animals caught in them and breaking the traps.

In appearance it is not unlike a small bear, its squat, powerful frame emphasized by its long shaggy fur, which is dark brown except for patches of white and a yellowish band along the side. Its fur is valuable, but being scarce is mostly used for trimming.

The Skunk

The last of the family is perhaps the best known. The skunk is a beautiful animal with a malodorous reputation. In its anal glands is secreted a yellowish fluid which it is able to eject as a defence screen. This fluid has a very offensive odour which at close quarters is both pungent and nauseating. All members of the family are capable of producing this secretion, but the skunk has developed it to a greater extent than any of the others and knows how to make effective use of it.

The skunk lacks much of the speed and cunning of some of the other members of the family. Indeed, it is slow of movement and because of this fact is seldom able to kill other mammals. If the opportunity presents itself it will visit the poultry yard and help itself. Its food, however, consists largely of insects, but birds, snakes, frogs and the occasional small mammal, when it can catch it, round out the diet.

The appearance of the skunk is too well known to require description. Its black fur, with bushy tail and distinctive white stripes on the back, make it easily recognized. Despite its reputation, the fur is popular because of its beauty and lasting quality.

Winter Feeding of Pheasants

"And when ye reap the harvest of thy land, thou shalt not wholly reap the corners of thy field, neither shalt thou gather the gleaning of thy harvest"—Leviticus 19:9.

The open seasons for pheasants are over for another year. It was great sport while it lasted. Birds were quite plentiful, if somewhat difficult to get at times. Many obtained their quotas, others managed to bag one or two, while the remainder will at least acknowledge having had a good time, and that, after all, is sport.

The winter now lies before us and there will probably be difficult days ahead for the pheasant, so it is fitting that the attention of the sportsman should once more be directed to winter feeding should climatic conditions make this necessary.

Under natural conditions these birds would require little or no assistance from man. The scheme of Nature is so intricate, and the provisions for wildlife sustenance and development so complete, that man scarcely enters into the picture, except to re-adjust the cycle which he has thrown out of joint by his philosophy of life.

The pheasant is a non-native bird introduced into this country from Europe. Metaphorically speaking, it is neither a hothouse plant nor a dependant. It can stand as much cold as our native birds provided it can get sufficient food to sustain it, and it is resourceful enough to feed itself even under trying circumstances, provided food is available. There are two provisions in that statement which deserve the attention of sportsmen. They are first, that hunger, not cold, is a winter-time danger, and second, that so long as food is available this danger remains at a minimum. There are certain periods during most winters when life for the pheasant is no picnic. Deep snow frequently covers the berry bushes, hides the weed seeds and eliminates the natural food supply. This is particularly true when ice coats the surface and completely seals up everything. During these periods the pheasant has a hard time finding enough nourishment to sustain life, and if the conditions are prolonged many birds will probably die of starvation.

In this emergency the co-operation of all those most interested is necessary. The farmer can usually be counted upon to do his share. He enjoys seeing the birds around the farm where they are attracted by the

"gleanings of the harvest" and the food usually scattered around for the use of the domestic stock. During these trying days the birds will remain in the immediate vicinity and become quite an attraction to the farmer and his family.

If the sportsman is really interested in his sport and the conservation of the resources which make it possible, he should lose no opportunity of playing his part in providing the protection necessary to its perpetuation, and development. This is not just a matter of protecting the birds from predators, human and otherwise, but of caring for them when an emergency arises such as that with which the pheasant and other wildlife is apt to be faced during a severe winter. This can best be done by organized effort to supply food in sections where pheasants are known to be, and in seeing that such supplies are so placed as to be readily available. It would be futile to place the food where the snow is deep and where it is liable to become buried. A place should be cleared by scraping away the snow and providing some sort of rough covering to protect the food from further snowfall. This protection may be constructed of anything which is readily available, such as logs, branches, vegetation, corn stalks, etc. Coarse grain is suitable for food and if corn cobs are used they may be suspended from fence rails or otherwise left within reach.

Each winter the department, through its overseers, provides many bushels of grain which is set out as emergency rations for the birds, but by reason of his vital interest in the game the sportsman should be ready to provide material and physical assistance if and when such is necessary.



When the Pheasant needs a friend.

Wildlife Treaty in Effect 25 Years

The Migratory Bird Treaty between the United States and Canada will have its 25th birthday Monday, December 8th, it was announced today by Secretary of the Interior Harold L. Ickes. Signed by the two nations to protect migratory waterfowl and other forms of wildlife going back and forth between Canada and the United States, the treaty was proclaimed by President Wilson on December 8, 1916.

"It is no exaggeration to call this treaty the most significant advance in the history of wildlife conservation in North America," Secretary Ickes said.

"In 1937, a similar treaty between Mexico and the United States was consummated to protect migratory birds and game mammals going back and forth between these two countries.

"Discharging our Federal obligations under these international agreements has made possible one of the most successful wildlife conservation programmes in history," the Secretary added. "Not only does the Department of the Interior carefully regulate the hunting of the species affected, but it also maintains a nation-wide system of refuges to protect and encourage the migratory birds. The resulting increase in birds is today the best possible evidence of the importance of this international co-operation."

Before the Federal Government by this treaty became responsible for conserving migratory birds, the seasons were set by each of the 48 States. Federal officials recall that song birds, as well as ducks and geese, were sold in many sections of the country, while the hunting of wild ducks and geese during the nesting season was not uncommon.

Lax regulations and excessive hunting contributed to the decline in North America's migratory waterfowl population, which fell to an all-time low of less than 30,000,000 in 1934. Since then, the population has come back to between 70- and 75,000,000.

Conservationists throughout the country agree that drastic reductions in bag limits, regulation of lengths of seasons in the three hunting zones of the country, and establishment of wildlife refuges in the strategic waterfowl areas played an important part in the come-back of the wildfowl. All these measures were based on this treaty.

The terms of the treaty have been upheld in a most satisfactory manner by both Canadian and American officials.—*U.S. Dept. of Interior.*

Synchronizing Shooting with Supply

In 1933-34 the ruffed grouse, commonly called "partridge", died off and became very scarce over most of Ontario. During the present year it became evident that grouse had recuperated their numbers markedly. Consequently and wisely the Department of Game and Fisheries declared the season open.

The history of the periodic rise and fall of grouse numbers shows that, on the average, dying off occurs about every ten years. After the elapse of six or seven years grouse are again sufficiently numerous to provide sport, and on the basis of cycle history and the application of simple arithmetic, should remain so for three or four years. The flexibility of regulations

concerning grouse hunting is a wise arrangement. It is a matter of synchronizing shooting with our grouse populations' ability to "take it".

Although disease can be regarded as the most important factor in the dying off of grouse, a great many other circumstances can alter its effectiveness. Disease is ever present. It is kept alive, so to speak, during periods of grouse scarcity by a chance victim here and there. But as the grouse population increases toward a condition of crowding, disease once more has a chance to spread. Like an outbreak of measles in a schoolroom, a blood disease, for example, can pass through the ranks of the ruffed grouse like wildfire.

Theoretically, then, it is wise to open the season on partridge before they are too numerous. Again theoretically, thinning the ranks of the grouse before these birds are rubbing elbows should be beneficial; it should tend to lessen the violence of rise and fall. Such procedure might conceivably determine whether we shall have three, or four, possibly five, consecutive seasons of grouse hunting.—*L.L.S., Bulletin Ontario Federation of Anglers and Hunters.*

The Sportsman's Best Friend

By Archibald Rutledge

Every normal man has some kind of job. Even if he is very rich and has no need to do ordinary work, yet the wary care of his money is a task in itself. Of all the jobs known to me, one seems to rank above all others in difficulty and thanklessness. It is likewise work which entails hardship and considerable personal danger. And the holder of it, as things are now in many localities, often suffers from wholly undeserved unpopularity. The man I mean is the game warden. And if he is the right kind, he is the sportsman's best friend. If he is really worthy of his important office, he should be recognized everywhere for what he truly is.

In the first place, if we had no game laws, we would very soon have no game—even rabbits would be as scarce as dodos. These are wise and necessary laws. Such regulations are usually drawn up each year by state game commissions with the sanction of the state legislatures. In other words, the people, through their duly accredited representatives, make the laws.

There are also Federal regulations for migrating wildfowl. It seems understood that a state owns the game in it if it stays there; but if it migrates in season, the Government owns it. And when it passes from one country to another, the two governments concerned try to come to an amicable agreement concerning regulations touching this game.

In all this there is nothing high-handed. It is decent and regular. The average man in America is left more free to hunt than is any other civilized man on the face of the globe. It is a sport that is enjoyed in varying degrees by rich and poor. It is in our free country truly a people's sport. And our people have made laws regulating that sport in order to perpetuate it.

As is proper, these laws vary in practically all the states. Local conditions determine their exact nature. Every state has its own game laws printed for each season, and every buyer of a hunting license is supplied with a copy. Moreover, complete seasons, bag limits and other pertinent matters are given wide publicity by newspapers and by sporting magazines. Any honest man who is a hunter would have a hard time not knowing the law.

But human nature is such that whenever we make a law, even though we ourselves make it, we have to hire someone to enforce it. This is true of practically all laws, and is especially so of game laws. In some states the governor has the power of appointing game wardens; in others, the power is delegated to the chief warden. Sometimes organizations of sportsmen make recommendations of the men they wish appointed.

It makes little difference how such a man gets his position. When once he is sworn in, he immediately becomes a representative of the majesty of the law. He represents the people's will. And he is the best friend of the true sportsman, the law-abiding hunter. Just as the policeman and the highway patrolman protect our lives and property from thieves and other scoundrels, so the game warden protects our game, and in so doing protects our hunting. If it were not for him, all of us who love this hardy recreation might just as well hang our guns on the wall.

By day and night, in all kinds of weather, amid the lonely dangers of the wilderness, it is the warden's chief business to hunt down the violators of the people's laws. His work is full of real hardships, sometimes of great peril, of almost constant dealing with the kind of people we like to avoid. We owe him a debt of gratitude that is unpaid. In a genuine sense, the whole outdoor sporting fraternity is dependent on him for its sport.

He is the active and accommodating friend of the hunter who makes it his business to do the right thing; and in dealing with the hunter who breaks the law, the game warden is never his enemy. He is only a just and fearless man doing his duty. I have rarely met a game warden who did not make me feel that he was holding down the hardest kind of job, and doing so like a man.

"Why, yes," you may agree, "these are good guys, but what are we supposed to do about it?"

The first thing to do, of course, is to obey the law, so that the warden can put you completely out of his mind as a violator. This is the primary way to co-operate with him. This in itself upholds his hands. I also believe that we should cease to regard him as just another man with a job. As a matter of fact he is working for us.

He holds what should be considered one of the most honoured, and certainly one of the most vital, positions in any community. He guards what we hold dear; he is the sleepless sentinel of our sport. Everything that he does is for our good. And not only does he put the fear of God into lawbreakers, but he studies the needs of game, he feeds it, he rescues it in time of drought, flood and blizzard. Throughout the year he is our game's best friend as well as ours.

I know that there are some rascally game wardens. With such men, the duty of good sportsmen is to see that they lose office. As in any field, there are trimmers and those who play to their favourites. But the vast majority of these men are altogether worthy of their positions.

Some of my happiest associations have been with game wardens. Most of them are deeply read in wood lore. In administering the law they are stern and unwavering, as they should be, for they are trusted public servants. Yet many hunters hate to see a warden. If they are honest, he is their best friend. And if he is a real one, he merits the highest degree of respect and friendship from the sportsmen.

—*Field and Stream.*

Victory Through Conservation

Two words of tremendous significance are in general use today; indeed we would say they are for the time being among the most important in the English language. They are Victory and Conservation. Let us examine their import.

Victory is essential to our existence. It is the keystone upon which the future of the world will be built, or its present foundations re-made. It represents the difference between a servile world and a world of free peoples. If—through the cruel workings of fate, or our own weakness or complacency—victory were to be denied us, our world of present reality and future ideals would pass from our grasp, probably for ever. Instead of freedom to enjoy our heritage, and the right to live our lives in our own way, within constitutional bounds, we would become the regimented serfs of the German State. Instead of the right of religious freedom, our souls would be sered by the gospel of blood and the deification of Nazi overlordship, at whose shrine we would be forced to worship. In short, if we were to lose the war we would lose all. Victory, therefore, is not just a symbol of something hoped for; it is our future, and in it is wrapped up all that we hold dear. Could anything in life be more important?

We shall not lose the war, but victory will not be achieved by wishful thinking, nor will good intentions alone pave the way to that important goal. Action to ensure success must be comprehensive and complete. It will require the wise and prudent use of all our resources.

Listen to the victory song as we hear it today. Save the waste materials; burn less gasoline; save money and help buy planes, tanks, ships, etc.; use more substitutes and save essential war supplies; save . . . ; save . . . ; save . . . The elimination of waste is a vital factor in the present emergency. It will ensure the maximum effort and the minimum loss. This is conservation.

Total war must be met by total effort. Manpower will be conserved by the use of machines, and these in turn will be made available through the effective use of our natural and national resources. The road to victory will be rough and hard, but progress along it will be made easier if we realize that this is a national crisis, and that the co-operation of the individual in the conservation of the resources—including wildlife—and all it implies, is an urgent and patriotic duty.

Of Interest

An interesting tabulation showing the number of firearms registered under Federal regulations during 1940 has just come to our desk. It lists the following totals for the Dominion: Rifles 353,840; Shotguns 595,946; .22 Rifles 500,420; making a grand total of 1,450,206.

Of this number the registrations for the Province of Ontario are as follows: Rifles 103,215; Shotguns 179,741; .22 Rifles 139,817; total 422,773. These figures show that Ontario has almost 30 per cent of the total firearms.

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The final "cease fire" for this year on the waterfowl front will be sounded one half-hour after sunset on December 31st. This marks the end of the special season for geese in Essex and Kent. Duck hunters evacuated their trenches a month earlier and now an armistice extending to September 15th of next year, is in effect.

All told it has been a good season; at least the birds were more plentiful than last year and therefore presented greater opportunities. There has been a gradual increase in the numbers of ducks and geese over a period of years. According to the U.S. Fish and Wildlife Service "the waterfowl population which in January 1940 had been estimated at about 65,000,000 was estimated during the January 1941 inventory to number about 70,000,000.

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NOTE

"Because of the economic conditions which prevail it has been decided to suspend further publication of the Bulletin.

We take this opportunity of expressing thanks to all those who helped to make the editorial road comparatively smooth, and trust our combined efforts have succeeded in "stimulating interest in the conservation of our Wildlife Natural Resources".

A few copies of certain back numbers of the Bulletin are still available and may be had on request.

J. MACARTNEY, *Editor.*

The Dog

I've never known a dog to wag
 His tail in glee he did not feel,
Nor quit his old-time friend to tag
 At some more influential heel;
The yellowest cur I ever knew
 Was, to the boy who owned him, true.

I've never known a dog to show
 Halfway devotion to his friend,
To seek a kinder man to know
 Or richer, but to the end
The humblest dog I ever knew
 Was to the man who loved him true.

I've never known a dog to fake
 Affection for a present gain
A false display of love to make
 Some little favour to attain.
I've never known a Prince or Spot
 That seemed to be what he was not.

But I have known a dog to fight
 With all his strength to shield a friend,
And whether wrong or whether right,
 To stick with him until the end.
And I have known a dog to lick
 The hands of him that men would kick.

And I have known a dog to bear
 Starvation's pangs from day to day
With him who had been glad to share
 His bread and meat along the way.
No dog, however mean or rude,
 Is guilty of ingratitude.

—*Anonymous.*

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